APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0503

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Greenheck Fan Corporation

Manufacturer's Technical Representative: Cameron Stevens

Mailing Address: 1100 Greenheck Drive, Schofield, WI 54476

Telephone: (715) 841-8356 Email: cameron.stevens@greenheck.com

Product Information

Product Name: Vektor/USF/FJC

Product Model Number(s): Various (See Attachment)

Product Category: Exhaust/Smoke Control Fans

Product Sub-Category: NA

General Description: Centrifugal fans with optional active and non-active nozzles. Sure-Aire boxes and Control boxes.

Mounting Description: Base mounted on spring isolators. Sure-Aire boxes and Control boxes are wall mounted rigid.

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates

Contact Person: Daniel Zentner

Mailing Address: 233 SW Wilson Ave, Suite 101, Bend, OR 97702

Telephone: (541) 292-5839 Email: dzentner@structint.com

Title: Program Manager

HCAi OSP-0503 BY: Timothy J. Piland DATE: 04/23/2025

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

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: LACHEZAR HANDZHIYSKI California License Number: S6515

Mailing Address: 5215 Hellyer Avenue, Suite 210, San Jose, CA 95138

Telephone: (669) 437-0200 Email: Lhandzhiyski@StructInt.com

Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

Telephone: (972) 247-9657 Email: jeremy@etldallas.com

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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 4.5 (SDS = 2.00); 2.4 (SDS = 3.20)

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 3.20 (z/h = 0)

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 2.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

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

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

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HCAI Approval (For Office Use Only) - Approval Expires on 04/23/2031

Date: 4/23/2025

Name: Timothy Piland Title: Senior Structural Engineer

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

Condition of Approval (if applicable):

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer: Greenheck Fan Corporation
Model Line: USF, Vektor-CH, Vektor-CS

TABLE 1

Certified Product Construction Summary:

UL-705; UL-762; Class II Construction; Belt Drive; Spark C Construction (carbon steel wheel); Carbon Steel Housing; Carbon Steel Shaft; Welded Scroll

Certified Options Summary:

Arrangement 10; Bolted Access Door; Weather Hood; Isolation Base (height saving); Upblast and Top Horizontal Scroll Discharge; Drain Connection; Shaft Seal; Nylon & Copper Extended Lube Lines; Clockwise and Counterclockwise Rotation; 80k and 200k hour Bearings

Mounting Configuration:

Base mounted - isolated

Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***3.2 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
USF, Vektor-CH, Vektor-CS	USF-07-5	35.0	37.2	33.4	245		Interp.
	USF-08-5	35.0	37.2	31.0	245		Interp.
	USF-09-5	35.0	37.2	31.0	254		Interp.
	USF-10-5	35.0	37.2	31.0	260		Interp.
	USF-12-5	37.6	39.2	37.0	393		Interp.
	Vektor-CH-12	35.6	39.3	120.2	406		Interp.
	Vektor-CS-12	35.6	39.3	120.2	499		Interp.
	USF-13-5	38.6	39.2	39.3	403		Interp.
	USF-15-5	42.8	43.6	43.8	467		Interp.
	Vektor-CH-15	40.6	43.6	120.0	565		Interp.
	Vektor-CS-15	40.6	43.6	120.0	620		Interp.
	USF-16-5	44.0	43.6	45.4	515		Interp.
	USF-18-5	45.3	43.6	43.6	532		Interp.
	Vektor-CH-18	43.1	43.6	120.1	650	*UUT: UB Discharge*	51
	Vektor-CS-18	43.1	43.6	120.1	759	*UUT: UB Discharge*	52
	USF-20-5	51.7	48.9	54.8	756		Interp.
	USF-22-5	53.5	48.9	57.2	836		Interp.
	Vektor-CH-22	50.7	48.9	120.2	934		Interp.
	Vektor-CS-22	50.7	48.9	120.2	1,120		Interp.
	USF-24-5	57.5	52.0	63.2	982		Interp.
	Vektor-CH-24	54.3	52.0	120.1	1,019		Interp.
	Vektor-CS-24	54.3	52.0	120.1	1,241		Interp.
	USF-27-5	62.0	55.3	68.9	1,055		Interp.
	Vektor-CH-27	58.4	55.3	120.2	1,183		Interp.

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer:	Greenheck Fan Corporation
Model Line:	USF, Vektor-CH, Vektor-CS

TABLE 1

Certified Product Construction Summary:

UL-705; UL-762; Class II Construction; Belt Drive; Spark C Construction (carbon steel wheel); Carbon Steel Housing; Carbon Steel Shaft; Welded Scroll

Certified Options Summary:

Arrangement 10; Bolted Access Door; Weather Hood; Isolation Base (height saving); Upblast and Top Horizontal Scroll Discharge; Drain Connection; Shaft Seal; Nylon & Copper Extended Lube Lines; Clockwise and Counterclockwise Rotation; 80k and 200k hour Bearings

Mounting Configuration:

Base mounted - isolated

Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***3.2 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
USF, Vektor-CH, Vektor-CS	Vektor-CS-27	58.4	55.3	120.2	1,405		Interp.
	USF-30-5	59.3	67.3	75.6	1,305		Interp.
	Vektor-CH-30	63.3	59.3	120.0	1,191	*UUT: UB Discharge*	53
	Vektor-CS-30	63.3	59.3	120.0	1,554	*UUT: UB Discharge*	54
	USF-33-5	76.5	64.5	73.8	1,971		Interp.
	USF-36-5	79.3	68.1	80.1	2,290		Interp.
	USF-40-5	83.7	72.1	86.9	2,687		Interp.
	USF-44-5	89.8	76.5	96.7	3,106		Interp.
	USF-49-5	93.3	81.2	104.9	3,744		Interp.
	USF-54-5	99.3	86.7	115.1	4,902		Interp.
	USF-60-5	109.5	92.7	127.6	5,868		Interp.
	USF-66-5	115.2	99.0	138.5	6,598	*UUT: UB Discharge*	55

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer:	Greenheck Fan Corporation	**TABLE 1.1**
Model Line:	USF	

Columns 1-3	Model	USF
Columns 4-5	Size	07-66
Column 6	Construction Level	5 = Construction Level 5
		3 = Construction Level 3
		2 = Construction Level 2
Column 7	Blade	A = Airfoil
		B = Backward Inclined

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer:	Greenheck Fan Corporation	**TABLE 1.2**
Model Line:	Vektor-CH	
Columns 1-6	Model	Vektor
Columns 7-8	Nozzle Type	CH = High Plume
Columns 9-10	Fan Size	12-30
Columns 11-12	Drive	10 = Belt Drive
Columns 13-14	Nozzle Size	7-28

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SPECIAL SEISMIC CERTIFICATION
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Manufacturer:	Greenheck Fan Corporation	**TABLE 1.3**
Model Line:	Vektor-CS	
Columns 1-6	Model	Vektor
Columns 7-8	Nozzle Type	CS = High Plume/Variable Geometry
Columns 9-10	Fan Size	12-30
Columns 11-12	Drive	10 = Belt Drive

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer: Greenheck Fan Corporation
Model Line: USF/FJC

TABLE 2

Certified Product Construction Summary:

Bolted Steel Frame; Carbon Steel Housing; Welded Steel Wheel; Belt Drive

Certified Options Summary:

Upblast or Top Horizontal Scroll Discharge; Slip Dit Inlet/Outlet Connection; Bolted Access Door; Motor Cover; Drain Connection; Nylon and Copper Extended Lube Lines; Shaft Seal; Clockwise and Counterclockwise Rotation; Flanged Inlet/Outlet Connection.

Mounting Configuration:

Base mounted - Isolated

Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***3.2 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
USF/FJC	USF-06-3	30.8	20.8	25.9	148		Interp.
	FJC-306	30.8	19.8	84.0	179		Interp.
	USF-07-3	30.8	20.8	25.9	148		Interp.
	FJC-307	30.8	19.8	84.0	179		Interp.
	USF-08-3	30.8	20.8	25.9	148		Interp.
	FJC-308	30.8	19.8	84.0	179		Interp.
	USF-09-3	30.8	20.8	25.9	148		Interp.
	FJC-309	30.8	19.8	84.0	179		Interp.
	USF-10-3	30.8	20.8	25.9	151		Interp.
	FJC-310	30.8	19.8	84.0	184	*UUT: UB Discharge*	56
	USF-12-3	30.9	23.5	27.7	164		Interp.
	FJC-312	30.9	23.0	84.0	195		Interp.
	USF-13-3	32.9	25.5	30.5	180		Interp.
	USF-15-3	35.0	27.8	33.9	240		Interp.
	FJC-315	35.0	28.0	84.0	274		Interp.
	USF-16-3	37.2	30.1	37.2	267		Interp.
	USF-18-3	40.1	32.8	41.2	390		Interp.
	USF-20-3	43.0	35.5	45.1	424		Interp.
	USF-22-3	46.6	39.0	50.1	473		Interp.
	USF-24-3	50.3	42.5	55.2	546	*UUT: TH Discharge*	58
	FJC-324	50.3	45.3	84.0	656	*UUT: UB Discharge*	57

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer:	Greenheck Fan Corporation	**TABLE 2.1**
Model Line:	FJC	

Columns 1-3	Model	FJC
Column 4	Series	2 = 200
		3 = 300
Columns 5-6	Fan Size	06-24

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer: Greenheck Fan Corporation
Model Line: USF

TABLE 3

Certified Product Construction Summary:

Sure-Aire: Polymer Enclosure with IP56 Rating
VGN Control Boxes: 14 gauge Carbon Steel, NEMA 3R Enclosures

Certified Options Summary:

N/A

Mounting Configuration:

Wall mounted - rigid

Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***3.2 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
Sure-Aire (100-240 VAC)	384799	3.0	6.0	6.0	5	*Max 8.3 inches W.C.*	59
	384800	3.0	6.0	6.0	5	*Max 22.14 inches W.C.*	Interp.
	384801	3.0	6.0	6.0	5	*Max 41.52 inches W.C.*	Interp.
	384802	3.0	6.0	6.0	5	*Max 83.04 inches W.C.*	Interp.
	384803	3.0	6.0	6.0	5	*Max 138.40 inches W.C.*	Interp.
Sure-Aire (24 VAC/VDC)	384986	3.0	6.0	6.0	5	*Max 8.3 inches W.C.*	Interp.
	384987	3.0	6.0	6.0	5	*Max 22.14 inches W.C.*	Interp.
	384988	3.0	6.0	6.0	5	*Max 41.52 inches W.C.*	Interp.
	384989	3.0	6.0	6.0	5	*Max 83.04 inches W.C.*	Interp.
	384990	3.0	6.0	6.0	5	*Max 138.40 inches W.C.*	60
VGN Control Boxes	878792	6.0	16.0	16.0	45	*For Single Fan*	61
	878793	6.0	20.0	20.0	55	*For Multiple Fans*	62

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer: Greenheck Fan Corporation
Model Line: USF
Table Description: Fan Motors

TABLE 4

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 3.2 g z/h = 0.0; I_P = 1.5

Component Type	Manufacturer	Model	Description	Notes	UUT
Motor	Baldor	48	*1/3 hp; 115-600V; Fan Sizes 7-10*		Interp.
		56	*2 hp; 115-600V; Fan Sizes 7-30*		Interp.
		143T	*0.5-1.5 hp; 115-600V; Fan Sizes 9-36*		Interp.
		145T	*0.75-3 hp; 115-600V; Fan Sizes 9-36*	*UUT: 2 hp; 115/230V*	56
		182T	*1-5 hp; 115-600V; Fan Sizes 9-40*		Interp.
		184T	*1.5-7.5 hp; 115-600V; Fan Sizes 9-40*		Interp.
		213T	*2-10 hp; 115-600V; Fan Sizes 15-44*		Interp.
		215T	*3-15 hp; 115-600V; Fan Sizes 15-54*	*UUT: 10 hp; 230/460V*	51,52,57,58
		254T	*5-20 hp; 115-600V; Fan Sizes 18-60*		Interp.
		256T	*7.5-25 hp; 115-600V; Fan Sizes 22-60*	*UUT: 20 hp; 575/600V*	53, 54
		284T	*10-30 hp; 115-600V; Fan Sizes 24-60*		Interp.
		286T	*15-40 hp; 208-600V; Fan Sizes 27-60*		Interp.
		324T	*20-50 hp; 208-600V; Fan Sizes 30-60*		Interp.
		326T	*25-60 hp; 208-600V; Fan Sizes 36-60*		Interp.
		364T	*30-75 hp; 208-600V; Fan Sizes 40-60*		Interp.
		365T	*50-100 hp; 208-600V; Fan Sizes 44-60*		Interp.
		404T	*50-125 hp; 208-600V; Fan Sizes 49-60*		Interp.
		405T	*60-150 hp; 208-600V; Fan Sizes 49-60*		Interp.
		444T	*125 hp; 208-600V; Fan Sizes 60-66*		Interp.
		445T	*150 hp; 208-600V; Fan Size 66*	*UUT: 150 hp; 460V*	55

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer: Greenheck Fan Corporation
Model Line: USF
Table Description: Fan Wheels

TABLE 5

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 3.2 g z/h = 0.0; I_P = 1.5

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lbs.)	Material	Notes	UUT
		Depth	Width	Height				
Airfoil Welded Steel (Greenheck)	AF-18.25		18.25		43	*Carbon Steel*		51
	AF-20		20.0		49	*Carbon Steel*		Interp.
	AF-22.25		22.25		68	*Carbon Steel*		Interp.
	AF-24.5		24.5		77	*Carbon Steel*		Interp.
	AF-27		27.0		88	*Carbon Steel*		Interp.
	AF-30		30.0		156	*Carbon Steel*		53, 54
	AF-33		33.0		188	*Carbon Steel*		Interp.
	AF-36.5		36.5		220	*Carbon Steel*		Interp.
	AF-40.25		40.25		285	*Carbon Steel*		Interp.
	AF-44.5		44.5		332	*Carbon Steel*		Interp.
	AF-49		49.0		456	*Carbon Steel*		Interp.
	AF-54.25		54.25		564	*Carbon Steel*		Interp.
	AF-60		60.0		745	*Carbon Steel*		Interp.
	AF-66		66.0		858	*Carbon Steel*		Interp.
Backward Inclined Welded Steel (Greenheck)	BI-10.5		10.5		11	*Carbon Steel*		Interp.
	BI-12.25		12.25		19	*Carbon Steel*		Interp.
	BI-13.5		13.5		21	*Carbon Steel*		Interp.
	BI-15		15.0		24	*Carbon Steel*		Interp.
	BI-16.5		16.5		36	*Carbon Steel*		Interp.
	BI-18.25		18.25		41	*Carbon Steel*		Interp.
	BI-20		20.0		47	*Carbon Steel*		Interp.
	BI-22.25		22.25		65	*Carbon Steel*		Interp.
	BI-24.5		24.5		77	*Carbon Steel*		Interp.

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer: Greenheck Fan Corporation
Model Line: USF
Table Description: Fan Wheels

TABLE 5

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 3.2 g z/h = 0.0; I_P = 1.5

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lbs.)	Material	Notes	UUT
		Depth	Width	Height				
Backward Inclined Welded Steel (Greenheck)	BI-27		27.0		88	*Carbon Steel*		Interp.
	BI-30		30.0		154	*Carbon Steel*		Interp.
	BI-33		33.0		174	*Carbon Steel*		Interp.
	BI-36.5		36.5		202	*Carbon Steel*		Interp.
	BI-40.25		40.25		266	*Carbon Steel*		Interp.
	BI-44.5		44.5		332	*Carbon Steel*		Interp.
	BI-49		49.0		456	*Carbon Steel*		Interp.
	BI-54.25		54.25		564	*Carbon Steel*		Interp.
	BI-60		60.0		775	*Carbon Steel*		Interp.
	BI-66		66.0		894	*Carbon Steel*		55
Backward Inclined Riveted Steel (Greenheck)	BI-11.19		11.19		10	*Carbon Steel*		56
	BI-12.25		12.25		19	*Carbon Steel*		Interp.
	BI-13.5		13.5		21	*Carbon Steel*		Interp.
	BI-15		15.0		24	*Carbon Steel*		Interp.
	BI-16.5		16.5		36	*Carbon Steel*		Interp.
	BI-18.25		18.25		41	*Carbon Steel*		52
	BI-20		20.0		47	*Carbon Steel*		Interp.
	BI-22.25		22.25		65	*Carbon Steel*		Interp.
	BI-24		24.0		77	*Carbon Steel*		57
Backward Inclined Welded Aluminum (Greenheck)	BI-11.19		11.19		3	*Aluminum*		Interp.
	BI-12.25		12.25		6	*Aluminum*		Interp.
	BI-13.5		13.5		7	*Aluminum*		Interp.
	BI-15		15.0		8	*Aluminum*		Interp.

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer: Greenheck Fan Corporation
Model Line: USF
Table Description: Fan Wheels

TABLE 5

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 3.2 g z/h = 0.0
I_P = 1.5

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lbs.)	Material	Notes	UUT
		Depth	Width	Height				
Backward Inclined Welded Aluminum (Greenheck)	BI-16.5		16.5		12	*Aluminum*		Interp.
	BI-18.25		18.25		14	*Aluminum*		Interp.
	BI-20		20.0		16	*Aluminum*		Interp.
	BI-22.25		22.25		22	*Aluminum*		Interp.
	BI-24		24.0		26	*Aluminum*		58

REVIEWED FOR CODE COMPLIANCE
OSP-0503
BY: Timothy J. Piland
DATE: 04/23/2025
CALIFORNIA BUILDING CODE 2022

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer:	Greenheck Fan Corporation	***Table Description:*** Nozzles	**TABLE 6**
Model Line:	Vektor-CH, Vektor-CS, FJC		

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS} = 2.0 g z/h = 1.0 I_P = 1.5; S_{DS} = 3.2 g z/h = 0.0

Component Type	Manufacturer	Model	Description	Notes	UUT
Vektor-CH	Greenheck	Vektor-CH-12-nozzle	*High Plume nozzle size 12, 59 lbs*		Interp.
		Vektor-CH-15-nozzle	*High Plume nozzle size 15, 67 lbs*		Interp.
		Vektor-CH-18-nozzle	*High Plume nozzle size 18, 77 lbs*		51
		Vektor-CH-22-nozzle	*High Plume nozzle size 22, 87 lbs*		Interp.
		Vektor-CH-24-nozzle	*High Plume nozzle size 24, 90 lbs*		Interp.
		Vektor-CH-27-nozzle	*High Plume nozzle size 27, 120 lbs*		Interp.
		Vektor-CH-30-nozzle	*High Plume nozzle size 30, 131 lbs*		53
Vektor-CS	Greenheck	Vektor-CS-12-nozzle	*Var. Geom. nozzle size 12, 206 lbs*		Extrap.
		Vektor-CS-15-nozzle	*Var. Geom. nozzle size 15, 204 lbs*		Extrap.
		Vektor-CS-18-nozzle	*Var. Geom. nozzle size 18, 225 lbs*		52
		Vektor-CS-22-nozzle	*Var. Geom. nozzle size 22, 246 lbs*		Interp.
		Vektor-CS-24-nozzle	*Var. Geom. nozzle size 24, 265 lbs*		Interp.
		Vektor-CS-27-nozzle	*Var. Geom. nozzle size 27, 280 lbs*		Interp.
		Vektor-CS-30-nozzle	*Var. Geom. nozzle size 30, 275 lbs*		54
FJC	Greenheck	FJC-306-nozzle	*FumeJet nozzle size 306, 28 lbs*		Interp.
		FJC-307-nozzle	*FumeJet nozzle size 307, 28 lbs*		Interp.
		FJC-308-nozzle	*FumeJet nozzle size 308, 28 lbs*		Interp.
		FJC-309-nozzle	*FumeJet nozzle size 309, 28 lbs*		Interp.
		FJC-310-nozzle	*FumeJet nozzle size 310, 28 lbs*		56
		FJC-312-nozzle	*FumeJet nozzle size 312, 29 lbs*		Interp.
		FJC-315-nozzle	*FumeJet nozzle size 315, 29 lbs*		Interp.
		FJC-324-nozzle	*FumeJet nozzle size 324, 43 lbs*		57

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer:	Greenheck Fan Corporation	***Table Description:*** Options/Accessories	**TABLE 7**
Model Line:	USF		

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS} = 2.0 g z/h = 1.0 I_P = 1.5; S_{DS} = 3.2 g z/h = 0.0

Component Type	Manufacturer	Model	Description	Notes	UUT
Sure-Aire (100-240 VAC)	Greenheck	384799	*Max Pressure - 8.30 inches W.C.*		52
		384800	*Max Pressure - 22.14 inches W.C.*		Interp.
		384801	*Max Pressure - 41.52 inches W.C.*		Interp.
		384802	*Max Pressure - 83.04 inches W.C.*		Interp.
		384803	*Max Pressure - 138.40 inches W.C.*		Interp.
Sure-Aire (24 VAC/VDC)	Greenheck	384986	*Max Pressure - 8.30 inches W.C.*		Interp.
		384987	*Max Pressure - 22.14 inches W.C.*		Interp.
		384988	*Max Pressure - 41.52 inches W.C.*		Interp.
		384989	*Max Pressure - 83.04 inches W.C.*		Interp.
		384990	*Max Pressure - 138.40 inches W.C.*		55
Toggle Switch (NEMA 3R)	ABB	KITABB6P	*25A Toggle Switch*		52
		EOT45U3M3-S	*60A Toggle Switch*		Interp.
		EOT63U3M3-S	*80A Toggle Switch*		Interp.
		EOT100U3M3-P	*100A Toggle Switch*		Interp.
		NF1253 - 3PB6A	*125A Toggle Switch*		55
		EOT45U3M3-S+ OTPS80FP	*60A Toggle Switch*		Interp.
		NF323 - 6PB6A	*40A Toggle Switch*		Interp.
		NF453 - 6PB6B	*60A Toggle Switch*		Interp.
		NF633 - 6PB6A	*80A Toggle Switch*		Interp.
		NF1003 - 6PB6B	*100A Toggle Switch*		52
Pressure Transducer	Greenheck	878791	*Pressure Transducer Box*		55
Actuator	Belimo	GMB24-SR	*Actuator*		52

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CALIFORNIA BUILDING CODE, 2022

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2551654-002, Rev. 0

TRU COMPLIANCE

Manufacturer:	Greenheck Fan Corporation	***Table Description:*** Options/Accessories	**TABLE 7**
Model Line:	USF		

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 3.2 g z/h = 0.0 I_P = 1.5

Component Type	Manufacturer	Model	Description	Notes	UUT
Disconnect Switch (NEMA 3R)	Square D	HU361 RB	*30A Disconnect Switch*		52
		HU362 RB	*60A Disconnect Switch*		Interp.
		HU363 RB	*100A Disconnect Switch*		Interp.
		HU364 RB	*200A Disconnect Switch*		55

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CALIFORNIA BUILDING CODE 2022

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer: Greenheck Fan Corporation

Model Line: USF, Vektor-CH, Vektor-CS

UUT	Unit Description (mounting)	Report Number (UUT#)	Testing Lab	Year Tested	ISO 17025 Accredited?	S_{DS}	z/h	I_P
51	Vektor-CH-18 (base mounted - isolated)	14238, Rev. 1 (UUT51)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
52	Vektor-CS-18 (base mounted - isolated)	14238, Rev. 1 (UUT52)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
53	Vektor-CH-30 (base mounted - isolated)	14238, Rev. 1 (UUT53)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
54	Vektor-CS-30 (base mounted - isolated)	14238, Rev. 1 (UUT54)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
55	USF-66-5 (base mounted - isolated)	14238, Rev. 1 (UUT55)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
56	FJC-310 (base mounted - isolated)	14238, Rev. 1 (UUT56)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
57	FJC-324 (base mounted - isolated)	14238, Rev. 1 (UUT57)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
58	USF-24-3 (base mounted - isolated)	14238, Rev. 1 (UUT58)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
59	Sure-Aire 384799 (wall mounted - rigid)	14238, Rev. 1 (UUT59)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
60	Sure-Aire 384990 (wall mounted - rigid)	14238, Rev. 1 (UUT60)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
61	878792 - Single Fan Control Box (wall mounted - rigid)	14238, Rev. 1 (UUT61)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5
62	878793 - Multiple Fan Control Box (wall mounted - rigid)	14238, Rev. 1 (UUT62)	Environmental Testing Lab (ETL)	2016	Yes	2.0 3.2	1.0 0.0	1.5

Notes:

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CALIFORNIA BUILDING CODE, 2022

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer:	*Greenheck Fan Corporation*	**UUT 51**
Model Line:	*USF, Vektor-CH, Vektor-CS*	
Model Number:	*Vektor-CH-18*	
Serial Number:	*N/A*	***Test Report:*** *14238, Rev. 1 (UUT51)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
650	43.1	43.6	120.1	5.2	4.1	10.6

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

UL-705; UL-762; Class II Construction; Belt Drive;
Spark C Construction (carbon steel wheel);
Carbon Steel Housing; Carbon Steel Shaft; Welded Scroll

Options/Subcomponent Summary:

Description
10 hp, 230/460V Motor
Welded Steel Airfoil Wheel
High Plume Nozzel Size 18

Test Mounting Details:



UUT51 was base mounted - isolated to the test fixture using four (4) VMC MSH-1E-400 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using two (2) 5/8" Grade 8 bolts for each isolator.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 52

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*Vektor-CS-18*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT52)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
759	43.1	43.6	120.1	9.8	11.8	8.8

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

UL-705; UL-762; Class II Construction; Belt Drive;
Spark C Construction (carbon steel wheel);
Carbon Steel Housing; Carbon Steel Shaft; Welded Scroll

Options/Subcomponent Summary:

Description
10 hp, 230/460V Motor
Backward Inclined Steel Riveted Wheel
Var. Geom. Nozzle Size 18
Sure-Aire 100-240 VAC
30A Disconnect Switch
25A Toggle Switch
100A Toggle Switch
GMB24-SR Actuator

Test Mounting Details:



UUT52 was base mounted - isolated to the test fixture using four (4) VMC MSH-1E-400 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using two (2) 5/8" Grade 8 bolts for each isolator.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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CALIFORNIA BUILDING

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 53

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*Vektor-CH-30*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT53)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,191	63.3	59.3	120.0	4.6	5.3	8.7

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

UL-705; UL-762; Class II Construction; Belt Drive;
Spark C Construction (carbon steel wheel);
Carbon Steel Housing; Carbon Steel Shaft; Welded Scroll

Options/Subcomponent Summary:

Description
20 hp, 575/600V Motor
Welded Steel Airfoil Wheel
High Plume Nozzle Size 30

Test Mounting Details:



UUT53 was base mounted - isolated to the test fixture using four (4) VMC MSH-1E-400 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using two (2) 5/8" Grade 8 bolts for each isolator.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 54

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*Vektor-CS-30*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT54)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,554	63.3	59.3	120.0	3.5	3.4	9.3

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

UL-705; UL-762; Class II Construction; Belt Drive;
Spark C Construction (carbon steel wheel);
Carbon Steel Housing; Carbon Steel Shaft; Welded Scroll

Options/Subcomponent Summary:

Description
20 hp, 575/600V Motor
Welded Steel Airfoil Wheel
Var. Geom. Nozzle Size 30

Test Mounting Details:



UUT54 was base mounted - isolated to the test fixture using four (4) VMC MSH-1E-400 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using two (2) 5/8" Grade 8 bolts for each isolator.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 55

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*USF-66-5*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT55)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
6,598	115.2	99.0	138.5	2.7	5.0	4.2

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

UL-705; UL-762; Class II Construction; Belt Drive;
Spark C Construction (carbon steel wheel);
Carbon Steel Housing; Carbon Steel Shaft; Welded Scroll

Options/Subcomponent Summary:

Description
150 hp, 460V Motor
Backward Inclined Welded Steel Wheel
Sure-Aire 24 VAC/VDC
200A Disconnect Switch
125A Toggle Switch
Pressure Transducer Box

Test Mounting Details:



UUT55 was base mounted - isolated to the test fixture using four (4) Mason SSLFH-C-1750 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using four (4) 5/8" Grade 8 bolts for each isolator. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer: *Greenheck Fan Corporation*
Model Line: *USF, Vektor-CH, Vektor-CS*
Model Number: *FJC-310*
Serial Number: *N/A*
Test Report: *14238, Rev. 1 (UUT56)*

UUT 56

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
184	30.8	19.8	84.0	1.6	2.3	5.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

Bolted Steel Frame; Carbon Steel Housing; Welded Steel Wheel; Belt Drive

Options/Subcomponent Summary:

Description
2 hp, 115/230V Motor
Backward Inclined Riveted Steel Wheel
FumeJet Nozzle Size 310

Test Mounting Details:



UUT56 was base mounted - isolated to the test fixture using four (4) VMC AMSR-1C-100 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using two (2) 5/8" Grade 8 bolts for each isolator.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 57

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*FJC-324*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT57)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
656	50.3	45.3	84.0	2.4	2.6	4.9

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

Bolted Steel Frame; Carbon Steel Housing; Welded Steel Wheel; Belt Drive

Options/Subcomponent Summary:

Description
10 hp, 230/460V Motor
Backward Inclined Riveted Steel Wheel
FumeJet Nozzle Size 324

Test Mounting Details:



UUT57 was base mounted - isolated to the test fixture using four (4) VMC AMSR-1C-250 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using two (2) 5/8" Grade 8 bolts for each isolator.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 58

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*USF-24-3*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT58)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
546	50.3	42.5	55.2	2.7	3.0	5.1

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

Bolted Steel Frame; Carbon Steel Housing; Welded Steel Wheel; Belt Drive

Options/Subcomponent Summary:

Description
10 hp, 230/460V Motor
Backward Inclined Welded Aluminum Wheel

Test Mounting Details:



UUT58 was base mounted - isolated to the test fixture using four (4) VMC AMSR-1C-250 isolators to the equipment skid using one (1) 1/2" Grade 8 bolt for each isolator. The isolators were mounted to the test fixture using two (2) 5/8" Grade 8 bolts for each isolator.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*Sure-Aire 384799*
Serial Number:	*N/A*

UUT 59

Test Report: *14238, Rev. 1 (UUT59)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
5	3.0	6.0	6.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

100-240 VAC; Max 8.3 inches water column;
Polymer Enclosure with IP56 Rating

Options/Subcomponent Summary:

Description
n/a

Test Mounting Details:



UUT59 was wall mounted - rigid to the plywood covered test fixture using four (4) #8 screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 60

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*Sure-Aire 384990*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT60)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
5	3.0	6.0	6.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

24 VAC/VDC; Max 138.40 inches water column;
Polymer Enclosure with IP56 Rating

Options/Subcomponent Summary:

Description
n/a

Test Mounting Details:



UUT60 was wall mounted - rigid to the plywood covered test fixture using four (4) #8 screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

REVIEWED FOR CODE COMPLIANCE HCAi OSP-0503 BY: Timoth DATE: 04 CALIFORNIA BUI

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 61

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*878792 - Single Fan Control Box*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT61)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
45	6.0	16.0	16.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

14 gauge Carbon Steel; NEMA 3R Enclosures

Options/Subcomponent Summary:

Description
n/a

Test Mounting Details:



UUT61 was wall mounted - rigid to the plywood covered test fixture using four (4) 1/4" lag screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

HCAI OSP BY: Timoth DATE: 04 REVIEWED FOR CODE COMPLIAN CALIFORNIA BUI

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2551654-002, Rev. 0

UUT 62

Manufacturer:	*Greenheck Fan Corporation*
Model Line:	*USF, Vektor-CH, Vektor-CS*
Model Number:	*878793 - Multiple Fan Control Box*
Serial Number:	*N/A*
Test Report:	*14238, Rev. 1 (UUT62)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
55	6.0	20.0	20.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

Product Construction Summary:

14 gauge Carbon Steel; NEMA 3R Enclosures

Options/Subcomponent Summary:

Description
n/a

Test Mounting Details:



UUT62 was wall mounted - rigid to the plywood covered test fixture using six (6) 1/4" lag screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

REVIEWED FOR CODE COMPLIANCE HCAi OSP-0503 BY: Timoth DATE: 04 CALIFORNIA BUI