

# DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC	OFFICE USE ONLY
CERTIFICATION PREAPPROVAL (OSP)	APPLICATION #: OSP-0219
HCAI Special Seismic Certification Preapproval (OSP)	
Type: New X Renewal	
Manufacturer Information	
Manufacturer: Loren Cook Company	
Manufacturer's Technical Representative: Bradley Skidmore, P.E.	
Mailing Address: 2015 East Dale St., Springfield, MO 65808	
Telephone:     (417)     869-6474     Email:     bskidmore@lore	ncook.com
Product Information	MA
Product Name: Air Handling Units	1 Starten and Star
Product Type: Fans	2
Product Model Number: See Attachment A for a complete listing of models	included in this application.
General Description: Square or Circular, Floor or Ceiling mounted inline	fans.
Mounting Description: Base mounted on spring isolators or Ceiling suspe	nded - iso <mark>late</mark> d
Tested Seismic Enhancements: Seismic enhancements made to the test anomalies during the tests shall be income	t units and/or modifications required to address reprint the production units.
Applicant Information	
Applicant Information	N. N
Applicant Company Name: The VMC Group	01
Contact Person: John Giuliano	
Mailing Address: 113 Main St, Bloomingdale, NJ 07403	
Telephone:     (973) 838-1780     Email:     john.giuliano@th	nevmcgroup.com
Title: President	

HCA



# DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com
Certification Method
GR-63-Core X ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
Other (Please Specify):
FOR CODE CO
Testing Laboratory
Company Name: CLARK TESTING LABORATORY, INC.
Contact Person: Robert Francis
Mailing Address: 1801 Route 51, Jefferson Hills PA 15025
Telephone: (412) 387-1001 Evenail: rfrancis@clarktesting.com
Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)
Contact Person: Paul E. Little
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513
Telephone: (972) 247-9657 Email: paul@etIdallas.com
BUILDING





# DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

#### Seismic Parameters

Desig	n Basis of Equipment or Components	(Fp/Wp) =	Base Isolated=4.5g (r (grade)	oof), 1.71 (gra	ade); Ceiling Isolated=3.6 (roof), 1.5
	SDS (Design spectral response accele	eration at sho		solated= 2.0g d= 2.0 (z/h=1)	
	ap (Amplification factor) =	2.5			
	Rp (Response modification factor) =	Base Isolate	ed= 2.0; Ceiling Isolate	ed= 2.5	
	$\Omega_0$ (System overstrength factor) =	2.0			
	Ip (Importance factor) =	1.5			
	z/h (Height ratio factor) =	1 and 0			
	Natural frequencies (Hz) =	See Attach	ment		
	Overall dimensions and weight =	See Attach	ment COA		
		JEV		2	
	Approval (For Office Lice Option	Approval		20	
HCA	Approval (For Office Use Only) -	Approval	Expires on 10/03/20	28	
Date:	10/3/2022				
Name	e: Mohammad Karim	BY: Mo	phammad Karim	Title:	Supervisor, Health Facilities
Speci	al Seismic Certification Valid Up to: SE	os (g) = <u>See</u>	Above	z/h =	See Above
Condi	tion of Approval (if applicable):	DAIE	10/03/2022	62	
		PRNIA B	UILDING CO	DE.V	

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



March 11 Care		D	imensions [ i	n ]	Weight	
Model Line	Model Number	Length	Width	Height	[ lb ]	UUT
	SQND 70	14.0	12.0	25.6	86	UUT-15
	SQND 90	17.0	14.0	29.6	90	Interpolated
	SQND 100	22.0	14.0	29.6	100	Interpolated
SQN-D	SQND 120	22.0	18.4	29.6	105	Interpolated
[ Direct Drive ]	SQND 135	22.3	20.8	38.4	165	Interpolated
	SQND 150	23.9	23.0	43.1	160	Interpolated
	SQND 165	27.3	25.3	52.7	130	UUT-6
	SQND 402	50.3	72.4	72.4	805	UUT-16
	SQNHP 135	22.3	20.8	33.3	135	UUT-4
	SQNHP 150	23.9	23.0	35.8	150	Interpolated
	SQNHP 165	27.0	25.3	40.1	175	Interpolated
	SQNHP 180	30.0	27.6	42.4	200	Interpolated
	SQNHP 195	32.3	29.9	44.9	225	Interpolated
	SQNHP 210	35.0	31.3	46.3	250	Interpolated
SQN-HP [ Belt Drive ]	SQNHP 225	37.3	33.5	48.8	300	Interpolated
[ Deit Drive ]	SQNHP 245	38.0	26.0	53.3	350	Interpolated
	SQNHP 270	41.5	39.7	56.9	400	Interpolated
	SQNHP 300	42.0	44.0	61.3	450	Interpolated
	SQNHP 330	45.8	48.4	65.7	500	Interpolated
	SQNHP 365	46.0	50.0	67.3	550	Interpolated
	SQNHP 402	50.3 🗩	02 551	72.4	800	Interpolated
	SQNB 60	22.0	14.0	26.5	100	Interpolated
	SQNB 70	22.0	14.0	26.5	100	Interpolated
	SQNB 80	* M <b>22:0</b> amr	nad14.grim	26.5	100	Interpolated
	SQNB 100	22.0	14.0	26.5	100	Interpolated
	SQNB 120	22.0	18.4	30.9	110	Interpolated
	SQNB 135	22.3 0/	03/20.8.2	33.3	125	Interpolated
	SQNB 150	23.9	23.0	35.8	150	Interpolated
	SQNB 165	27.0	25.3	40.1	175	Interpolated
SQN-B	SQNB 180	30.0	27.6	42.4	200	Interpolated
[ Belt Drive ]	SQNB 195	32.3	29.9	44.9	225	Interpolated
	SQNB 210	35.0	31.3	46.3	250	Interpolated
	SQNB 225	37.3	33.5	48.8	300	Interpolated
	SQNB 245	38.0	36.0	53.3	350	Interpolated
	SQNB 270	41.5	39.7	56.9	400	Interpolated
	SQNB 300	42.0	44.0	61.3	450	Interpolated
	SQNB 330	45.8	48.4	65.7	500	Interpolated
	SQNB 365	46.0	50.0	67.3	550	Interpolated
	SQNB 402	50.3	55.1	72.4	735	UUT-5

## Table 1A - Certified Inline Fans - Isolated Base Mounted

	Dimensions [ in ]			n 1	Weight	Jontinued
Model Line	Model Number	Length	Width	Height	[lb]	UUT
	QMX 90	19.9	15.9	31.3	240	UUT-10
	QMX 120	24.0	20.1	36.5	309	Interpolated
	QMX 135	27.0	22.3	39.4	418	Interpolated
	QMX 150	30.0	24.4	42.1	485	Interpolated
	QMX 165	33.0	26.5	43.8	557	Interpolated
	QMX 180	35.0	28.6	46.3	618	Interpolated
	QMX 100	37.5	31.8	49.9	803	Interpolated
	QMX 202	41.0	34.9	55.9	937	Interpolated
QMX	QMX 225	44.5	37.8	59.0	1,089	Interpolated
[ Belt Drive ]	QMX 243	47.0	41.3	62.9	1,230	Interpolated
	QMX 270 QMX 300	54.0	41.3	68.1	1,455	
	QMX 300 QMX 330	58.5	49.8	74.8	1,750	Interpolated
						Interpolated
	QMX 365	64.0	54.8	80.3	2,260	Interpolated
	QMX 402	68.5	59.9	88.3	2,785	Interpolated
	QMX 445	74.0	66.1	94.9	3,465	Interpolated
	QMX 490	80.5	72.4	103.3	4,180	Interpolated
	QMX 540	87.0	79.4	110.9	4,950	Interpolated
	QMX 600	95.5	87.9	122.1	6,070	Interpolated
	QMXHP 90	19.8	15.9	30.0	180	Interpolated
	QMXHP 120	24.0	20.1	36.5	352	Interpolated
	QMXHP 135	27.0 P-	02223	39.4	431	Interpolated
	QMXHP 150	30.0	24.4	42.1	511	Interpolated
	QMXHP 165	33.0	26.5	43.8	667	Interpolated
	QMXHP 180	/ <b>: //35:0</b> amr	nad28.6rim	46.3	723	Interpolated
	QMXHP 202	37.5	31.8	49.9	860	Interpolated
	QMXHP 225	41.0	34.9	55.9	1,023	Interpolated
QMX-HP	QMXHP 245	44.5 0/	03/3782	59.0	1,050	Interpolated
[Belt Drive]	QMXHP 270	47.0	41.3	62.9	1,085	UUT 11
	QMXHP 300	54.0	45.5	68.1	1,610	Interpolated
	QMXHP 330	58.5	49.8	74.8	1,885	Interpolated
	QMXHP 365	64.0	54.8	80.3	2,500	Interpolated
	QMXHP 402	68.5	59.9	88.3	3,045	Interpolated
	QMXHP 445	74.0	66.1	94.9	3,605	Interpolated
	QMXHP 490	80.5	72.4	103.3	4,490	Interpolated
	QMXHP 540	87.0	79.4	110.9	5,090	Interpolated
	QMXHP 600	95.5	87.9	122.1	7,385	Interpolated
	QMXXP 90	19.9	15.9	30.0	271	Interpolated
	QMXXP 120	24.0	20.1	36.5	385	Interpolated
	QMXXP 135	27.0	22.3	39.4	453	Interpolated
	QMXXP 150	30.0	24.4	42.1	526	Interpolated
	QMXXP 165	33.0	26.5	43.8	687	Interpolated
	QMXXP 180	35.0	28.6	46.3	791	Interpolated
	QMXXP 202	37.5	31.8	49.9	911	Interpolated
	QMXXP 225	41.0	34.9	55.9	1,133	Interpolated
QMX-XP	QMXXP 245	44.5	37.8	59.0	1,210	Interpolated
[Belt Drive]	QMXXP 270	47.0	41.3	62.9	1,370	Interpolated
	QMXXP 300	54.0	45.5	68.1	2,280	Interpolated
	QMXXP 330	58.5	49.8	74.8	2,795	Interpolated
	QMXXP 365	64.0	54.8	80.3	3,288	Interpolated
	QMXXP 402	68.5	59.9	88.3	4,042	Interpolated
	QMXXP 445	74.0	66.1	94.9	4,780	Interpolated
	QMXXP 490	80.5	72.4	103.3	5,530	Interpolated
	QMXXP 540	87.0	72.4	110.9	6,090	Interpolated
	QMXXP 600	95.5	87.9	110.9	7,385	UUT-13
		30.0	07.9	122.1	7,305	001-15

## Table 1A - Certified Inline Fans - Isolated Base Mounted, Continued

Model Line	Model Number	D	imensions [ i	n ]	Weight	UUT
	wodel Number	Length	Width	Height	[ lb ]	001
	SQND 70	14.0	12.0	25.6	50	UUT-14
	SQND 90	17.0	14.0	29.6	90	Interpolated
SQN-D	SQND 100	22.0	14.0	29.6	100	Interpolated
[ Direct Drive ]	SQND 120	22.0	18.4	29.6	105	Interpolated
[ Direct Drive ]	SQND 135	22.3	20.8	38.4	165	Interpolated
	SQND 150	23.9	23.0	43.1	160	Interpolated
	SQND 165	27.0	25.4	52.7	130	UUT-3
	SQNB 60	22.0	14.0	26.5	100	UUT-1
	SQNB 70	22.0	14.0	26.5	100	Interpolated
	SQNB 80	22.0	14.0	26.5	100	Interpolated
	SQNB 100	22.0	14.0	26.5	100	Interpolated
	SQNB 120	22.0	18.4	30.9	110	Interpolated
	SQNB 135	22.3	20.8	33.3	125	Interpolated
	SQNB 150	23.9	23.0	35.8	150	Interpolated
	SQNB 165	27.0	25.3	40.1	175	Interpolated
SQN-B	SQNB 180	30.0	27.6	42.4	200	Interpolated
[Belt Drive]	SQNB 195	32.3	29.9	44.9	225	Interpolated
	SQNB 210	35.0	31.3	46.3	250	Interpolated
	SQNB 225	37.3	33.5	48.8	300	Interpolated
	SQNB 245	38.0	36.0	53.3	350	Interpolated
	SQNB 270	41.5 D	0.2 39.7	56.9	400	Interpolated
	SQNB 300	42.0	44.0	61.3	450	Interpolated
	SQNB 330	45.8	48.4	65.7	500	Interpolated
	SQNB 365	. V <b>46</b> :0amr	nad50.0rim	67.3	550	Interpolated
	SQNB 402	50.3	55.1	72.4	805	Interpolated
	SQNHP 135	22.3	20.8	33.3	135	Interpolated
	SQNHP 150	23.9 0/	03/23.02	35.8	150	Interpolated
	SQNHP 165	27.0	25.3	40.1	175	Interpolated
	SQNHP 180	30.0	27.6	42,4	200	Interpolated
	SQNHP 195	32.3	29.9	44.9	225	Interpolated
SQN-HP	SQNHP 210	35.0	31.3	46.3	250	Interpolated
	SQNHP 225	37.3	33.5	48.8	300	Interpolated
[Belt Drive]	SQNHP 245	38.01	36.0	53.3	350	Interpolated
	SQNHP 270	41.5	39.7	56.9	400	Interpolated
	SQNHP 300	42.0	44.0	61.3	450	Interpolated
	SQNHP 330	45.8	48.4	65.7	500	Interpolated
	SQNHP 365	46.0	50.0	67.3	550	Interpolated
	SQNHP 402	50.3	55.1	72.4	800	UUT-2

## Table 1B-Certified Inline Fans-Isolated&Braced Ceiling Suspended

		Suspended,Continued				
Model Line	Model Number	Length	imensions [ i Width	n j Height	Weight [ lb ]	UUT
	QMXHP 90	19.8	15.9	30.0	180	UUT 7
	QMXHP 120	24.0	20.1	36.5	352	Interpolated
	QMXHP 135	27.0	22.3	39.4	431	Interpolated
	QMXHP 150	30.0	24.4	42.1	511	Interpolated
	QMXHP 165	33.0	26.5	43.8	667	Interpolated
	QMXHP 180	35.0	28.6	46.3	723	Interpolated
	QMXHP 202	37.5	31.8	49.9	860	Interpolated
	QMXHP 225	41.0	34.9	55.9	1,023	Interpolated
QMX-HP	QMXHP 245	44.5	37.8	59.0	1,020	Interpolated
[ Belt Drive ]	QMXHP 270	47.0	41.3	62.9	1,085	Interpolated
	QMXHP 300	54.0	45.5	68.1	1,610	Interpolated
	QMXHP 330	58.5	49.8	74.8	1,885	Interpolated
	QMXHP 365	64.0	54.8	80.3	2,500	Interpolated
	QMXHP 402	68.5	59.9	88.3	3,045	Interpolated
	QMXHP 442 QMXHP 445	74.0	66.1	94.9	3,605	Interpolated
	QMXHP 490	80.5	D 72.4	103.3	4,490	Interpolated
	QMXHP 540	87.0	79.4	110.9	5,090	Interpolated
	QMXHP 540 QMXHP 600	95.5	87.9	122.1	6,070	Interpolated
	QMXXP 90	95.5	15.9	30.0	271	Interpolated
	QMXXP 120	24.0	20.1	36.5	385	Interpolated
	QMXXP 135	27.0	20.1	39.4	453	Interpolated
	QMXXP 150	30.0	24.4	42.1	526	Interpolated
	QMXXP 165	33.0	24.4	43.8	687	Interpolated
	QMXXP 180		nad28.6rim	46.3	791	Interpolated
	QMXXP 202	37.5	31.8	49.9	911	Interpolated
	QMXXP 225	41.0	34.9	55.9	1,133	Interpolated
QMX-XP	QMXXP 245	44.5 0/	03/37.82	59.0	1,210	Interpolated
[ Belt Drive ]	QMXXP 270	47.0	41.3	62.9	1,370	UUT 8
	QMXXP 300	54.0	45.5	68.1	2,280	Interpolated
	QMXXP 330	58.5	49.8	74.8	2,795	Interpolated
	QMXXP 365	64.0	54.8	80.3	3,288	Interpolated
	QMXXP 402	68.5	59.9	88.3	4,042	Interpolated
	QMXXP 445	74.011	66.1	94.9	4,780	Interpolated
	QMXXP 490	80.5	72.4	103.3	5,530	Interpolated
	QMXXP 540	87.0	79.4	110.9	6,070	Interpolated
	QMXXP 600	95.5	87.9	122.1	6,070	Interpolated
	QMX 90	19.9	15.9	31.3	240	Interpolated
	QMX 120	24.0	20.1	36.5	309	Interpolated
	QMX 135	27.0	22.3	39.4	418	Interpolated
	QMX 150	30.0	24.4	42.1	485	Interpolated
	QMX 165	33.0	26.5	43.8	557	Interpolated
	QMX 180	35.0	28.6	46.3	618	Interpolated
	QMX 202	37.5	31.8	49.9	803	Interpolated
	QMX 225	41.0	34.9	55.9	937	Interpolated
QMX	QMX 245	44.5	37.8	59.0	1,089	Interpolated
[Belt Drive]	QMX 270	47.0	41.3	62.9	1,230	Interpolated
	QMX 300	54.0	45.5	68.1	1,455	Interpolated
	QMX 330	58.5	49.8	74.8	1,750	Interpolated
	QMX 365	64.0	54.8	80.3	2,260	Interpolated
	QMX 402	68.5	59.9	88.3	2,785	Interpolated
	QMX 445	74.0	66.1	94.9	3,465	Interpolated
	QMX 490	80.5	72.4	103.3	4,180	Interpolated
	QMX 540	87.0	79.4	110.9	4,950	Interpolated
	QMX 600	95.5	87.9	122.1	6,070	UUT-9

## Table1B:Certified Inline Fans:Isolated&Braced Ceiling Suspended,Continued

## Table 2A- Certified Fan Motors - Isolated Base Mounted

Component Type	Model	MFR	НР	Voltage	Weight [ lb ]	UUT
	56 T		0.75		25	Extrapolated
	143 T		1		35	Extrapolated
	145 T		1.5		41	Extrapolated
	145 T		2	208-230/460V	45	Extrapolated
	182 T		3		73	UUT-10
	184 T		5		107	Interpolated
	213 T		7.5		170	Interpolated
	215 T		10		191	UUT-16
Fan Motors	254 T	Baldor	15		275	Interpolated
	256 T		20		309	Interpolated
	284 T		25		425	UUT-11
	286 T		30	230/460V	437	Interpolated
	324 T		40	200/400 V	570	Interpolated
	326 T		50		640	Interpolated
	364 T		60		912	Interpolated
	365 T		75		955	Interpolated
	404 T		100		1,205	UUT-13

# Table 2B - Certified Fan Motors - Isolated & Braced Ceiling Suspended

Component Type	Model	MFR	HP A	Voltage	Weight [ lb ]	UUT
	56 T		0.75	The second s	25	UUT-1
	143 4		OSP-021	9 0	35	Interpolated
	145	9899 <del></del>	1.5	Ч П	41	Interpolated
	145 T	ANA	2	208-230/460V	45	Interpolated
	182 T	BY:N	ohanamad	Karim	73	UUT-7
	184 T	11111	5		107	Interpolated
	213 T	DAT	7.5		170	Interpolated
	215T	DAH	: 14603/2	1022 JO	191	Interpolated
Fan Motors	254 T	Baldor	15	5	275	Interpolated
	256 T		20	$\sim$	309	Interpolated
	284 T		25		425	UUT-8
	286 T	PA .	30	230/460V	437	Interpolated
	324 T		40	230/400 V	570	Interpolated
	326 T		JUI 50 IN	6	640	Interpolated
	364 T		60		912	Interpolated
	365 T		75		955	Interpolated
	404 T		100		1,205	UUT-9

### Table 3A- Certified Fan Wheel - Isolated Base Mounted

Component Type	Model Size [ in ]	MFR	Material	Weight [ Ib ]	UUT
	10.0			2.8	UUT-15
	12.0			4	Interpolated
	13.5			4.7	Interpolated
	15.0			6	Interpolated
	16.5			8	Interpolated
	18.0		Aluminum	10	Interpolated
Contrifugal	19.5			11	Interpolated
Centrifugal [Backward Inclined]	21.0	Loren Cook		13	Interpolated
	22.5			16	Interpolated
	24.5			18	Interpolated
	27.0			23	Interpolated
	30.0			33	Interpolated
	33.0			38	Interpolated
	36.5			44	Interpolated
	40.3	0SP-0219		63	UUT-16

Component Type	Model Size [ in ]	MFR	Material	Weight [ lb ]	UUT
	13.5			3.7	UUT-4
	15.0			4	Interpolated
	16.5			4.7	Interpolated
	18.0			6	Interpolated
	19.5			7	Interpolated
	21.0			8	Interpolated
Centrifugal HP	22.5	Loren Cook	Aluminum	11	Interpolated
[Backward Inclined]	24.5			13	Interpolated
	27.0			16	Interpolated
	30.0			25	Interpolated
	33.0			28	Interpolated
	36.5			33	Interpolated
	40.3			50	Interpolated
	9.0			11	UUT-10
	12.0	CODE		17	Interpolated
	13.5			23	Interpolated
	15.0	MANANA AND AND AND AND AND AND AND AND AN	M.	31	Interpolated
	16.5			37	Interpolated
	18.0			47	Interpolated
	20.2	all the second		74	Interpolated
	22.5	SP-0219	6	90	Interpolated
QMX	24.5		Carbon Starl	110	Interpolated
[Single Thickness Blade]	27.0	Loren Cook	Carbon Steel	148	Interpolated
	30.0 Mo	hammad Kai	im 📃 🔿	156	Interpolated
	33.0			228	Interpolated
	36.5	10/00/000		288	Interpolated
	40.2AIE:	10/03/202	2   / 0 /	358	Interpolated
	44.5			536	Interpolated
	49.0			645	Interpolated
	54.0		SV 4 S/	777	Interpolated
	60.0			1,130	Interpolated
	9.0			11	Interpolated
	12.0	UTI DING		19	Interpolated
	13.5			24	Interpolated
	15.0			33	Interpolated
	16.5			43	Interpolated
	18.0			50	Interpolated
	20.2			75	Interpolated
	22.5			99	Interpolated
QMX-HP/XP	24.5	Loren Cook	Carbon Steel	117	Interpolated
[ Airfoil Blade ]	27.0	Loron Cook		146	UUT-11
	30.0			156	Interpolated
	33.0			239	Interpolated
	36.5			304	Interpolated
	40.2			361	Interpolated
	44.5			528	Interpolated
	49.0			651	Interpolated
	54.0			783	Interpolated
	60.0			1,155	UUT-13

## Table 3A- Certified Fan Wheel - Isolated Base Mounted, Continued

Component Type	Model Size [ in ]	MFR	Material	Weight [ lb ]	UUT
	10.0			2.8	UUT-1, UUT-14
	12.0			4	Interpolated
	13.5		-	4.7	Interpolated
	15.0		-	6	Interpolated
	16.5			8	UUT-3
	18.0			10	Interpolated
Contrifunal	19.5		-	11	Interpolated
Centrifugal	21.0	Loren Cook	Aluminum	13	Interpolated
[Backward Inclined]	22.5			16	Interpolated
	24.5		-	18	Interpolated
	27.0			23	Interpolated
	30.0		-	33	Interpolated
	33.0		-	38	Interpolated
	36.5		-	44	Interpolated
	40.3	CODE	-	63	Interpolated
	13.5	CODEC		3.7	Interpolated
	15.0		$\mathcal{N}$	4	Interpolated
	16.5			4.7	Interpolated
	18.0			6	Interpolated
	19.5	all marked the dealers with		7	Interpolated
Contrifugal UD	21.0	SP_0210	16	8	Interpolated
Centrifugal HP	22.5	SP-0219 Loren Cook	Aluminum	11	Interpolated
[Backward Inclined]	24.5			13	Interpolated
	27.0 Mo	hammad Kai	rim 🛛 🖳 👝 🛛	16	Interpolated
	30.0			25	Interpolated
	33.0			28	Interpolated
	36.5ATE:	10/03/202	2   0	33	Interpolated
	40.3			50	UUT-2

## Table 3B- Certified Fan Wheel - Isolated & Braced Ceiling Suspended



	Model Size			Weight	-
Component Type	[ in ]	MFR	Material	[ lb ]	UUT
	9.0			11	UUT-7
	12.0			19	Interpolated
	13.5			24	Interpolated
	15.0			33	Interpolated
	16.5			43	Interpolated
	18.0			50	Interpolated
	20.2			75	Interpolated
	22.5			99	Interpolated
QMX-HP/XP	24.5	Loren Cook	Carbon Steel	117	Interpolated
[ Airfoil Blade ]	27.0	Loren Cook	Carbon Steel	146	UUT-8
	30.0			156	Interpolated
	33.0			239	Interpolated
	36.5			304	Interpolated
	40.2			361	Interpolated
	44.5	CODE		528	Interpolated
	49.0			651	Interpolated
	54.0	MANNA STREET	$\mathcal{N}$	783	Interpolated
	60.0			1,155	Interpolated
	9.0			11	Interpolated
	12.0	n Marine Marine Marine Marine		17	Interpolated
	13.5	SP-0219	6	23	Interpolated
	<b>Q</b> 15.0	01 0210	m	31	Interpolated
	16.5			37	Interpolated
	18.0 Mo	hammad Kai	rim 🚺 🔵	47	Interpolated
	20.2			74	Interpolated
	22.5	40/00/000		90	Interpolated
QMX	24.5AIE:	10/03/202 Loren Cook	Carbon Steel	110	Interpolated
[Single Thickness Blade]	27.0	LOTETT COOK	Carbon Gleer	148	Interpolated
	30.0		$\sim\sim$	156	Interpolated
	33.0			228	Interpolated
	36.5			288	Interpolated
	40.2	A WINGS OF		358	Interpolated
	44.5 B	JI DING		536	Interpolated
	49.0			645	Interpolated
	54.0			777	Interpolated
	60.0			1,130	UUT-9

## Table 3B-Certified Fan Wheel-Isolated&Braced Ceiling Suspended,Con



#### UUT-1

#### **Summary Sheet** Test Report: EL:9580 Model Line Model Number Manufacturer SQN 60 SQN-B Loren Cook Company **Product Construction Summary** 18 Gauge Galvanized Carbon Steel Housing; Aluminum Fan Wheel **Options / Subcomponent Summary** Baldor 3/4 HP Belt Drive Motor; Motor Cover/Belt Guard; Universal Mounting Feet; Access Doors **UUT** Properties Dimensions [ in ] Lowest Nat. Freq. [ Hz ] Weight [ lbs ] Width Height Length F-B S-S V 100 22.0 14.0 26.5 N/A N/A N/A UUT Highest Passed Seismic Run Information **Building Code** Test Criteria z/h A<sub>FLX-H</sub> A<sub>RIG-V</sub> S<sub>DS/</sub> Ip. A<sub>RIG-H</sub> A<sub>FLX-V</sub> 2.50 1.0 1.5 4.00 3.00 1.67 0.67 CBC 2022 ICC-ES AC156 \_ -

Test Mounting Details

UUT-1 was ceiling suspended, using (4) Caldyn HH30 ET80 spring isolators, with 3/8" ASTM A307 Grade A steel threaded rods connected to the UUT through (2) 1/4" carbon steel angle brackets using (1) 5/16" Grade 2 bolt and bolted together with (2) 3/8" Grade 5 bolts. The UUT was diagonally braced with (4) 1/4" diameter carbon steel cables.





#### UUT-2

#### Summary Sheet

Test Report: EL:9580

Model Line		M	lodel Numb	er		N	lanufacture	er		
SQN		2	402 SQN-HF	5		Lorei	n Cook Com	ipany		
	i	Product C	onstruction	Summary						
18 Gauge Galvanized C	Carbon Steel Housing; Al	luminum Fan	Wheel							
		Options / Su	bcompone	nt Summar	у					
TECO-Westinghouse 18	5 HP Belt Drive Motor; M	/lotor Cover/E	Jelt Guard; L	Jniversal Mc	ounting Feet;	Access Doc				
							Access Doors			
			COD							
		FOR	CODE	CO						
			UT Properti							
	- Pr			63		Lowor	t Not Erog	r u~ 1		
Weight	5		ons [ in ]		Y I		st Nat. Freq			
[ lbs ]	Length	Wie	dth	He	ight	F-B	S-S	V		
800	50.3	55	8P-021	9 72	2.4	N/A	N/A	N/A		
		Highest Pass	sed Seismic	c Run Inform	mation					
Building Code	Test <mark>Criter</mark> ia	B∨S <sub>ps/loh</sub>	am <mark>z/h</mark> ad	Karh	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
CPC 2022		2.50	1.0	1.5	4.00	3.00	1.67	0.67		
CBC 2022	ICC-ES AC156	DATE.	40/00/0		-	-	-	-		
		DATTest	Mounting D	etails	12					

UUT-2 was ceiling suspended, using (4) Caldyn HH30 ET347 spring isolators, with 1/2" ASTM A307 Grade A steel threaded rods connected to the UUT through (2) 1/4" carbon steel angle brackets using (2) 5/16" Grade 2 bolt and bolted together with (2) 3/8" Grade 5 bolts. The UUT was diagonally braced with (2) 3/8" diameter carbon steel cables and a single universal mounting foot at each corner.





#### UUT-3

#### Test Report: EL:9580 Model Line Model Number Manufacturer SQN 165 SQN-D Loren Cook Company **Product Construction Summary** 18 Gauge Galvanized Carbon Steel Housing; Aluminum Fan Wheel **Options / Subcomponent Summarv** A.O. Smith 2 HP Direct Drive Motor; Universal Mounting Feet; Access Doors **UUT** Properties Dimensions [ in ] Lowest Nat. Freq. [ Hz ] Weight [ lbs ] Width Height Length F-B S-S V 130 27.0 25.4 P 52.7 N/A N/A N/A UUT Highest Passed Seismic Run Information **Building Code** Test Criteria z/h A<sub>FLX-H</sub> A<sub>RIG-V</sub> S<sub>DS/</sub> Ip. A<sub>RIG-H</sub> A<sub>FLX-V</sub> 2.50 1.0 1.5 4.00 3.00 1.67 0.67 CBC 2022 ICC-ES AC156 \_ -Test Mounting Details UUT-3 was ceiling suspended, using (4) Caldyn HH30 ET80 spring isolators, with 3/8" ASTM A307 Grade A steel threaded rods connected to the UUT through (2) 1/4" carbon steel angle brackets using (1) 5/16" Grade 2 bolt and bolted together with (2) 3/8" Grade 5 bolts. The UUT was diagonally braced with (2) 1/4" diameter carbon steel cables at each corner.

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

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#### UUT-4

VMC GROUP		••••••						
	1					-	Test Repo	
Model Line	9	M	odel Numb	er		N	lanufacture	er
SQN		1	135 SQN-HF	)		Lore	n Cook Com	ipany
		Product Co	onstruction	Summary				
Gauge Galvanized	Carbon Steel Housing; Al	uminum Fan	Wheel					
		Options / Su	bcompone	nt Summar	у			
		FOR	CODE	COA				
Weight	, SA	Dimensio				Lowes	st Nat. Freq	. [ Hz ]
[ lbs ]	Length	Wic	N WYYLY V	He	ight	F-B	S-S	V
135	22.3	20	8P-021	-	3.3	2.5	3.1	9.0
	UUT H	lighest Pass	sed Seismic	Run Infor	nation			
Building Code	Test <mark>Criter</mark> ia	B∨S <sub>ps/oh</sub>	am <sup>z/h</sup> ad	Karlm	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-\</sub>
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		DATE.	Hounting D			-	-	-
	ing (4) Caldyn JQAE106k sing (1) 5/16" Grade 2 bol							

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

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#### UUT-5

### **Summary Sheet**

							1 est Repo	ort: EL:9580
Model Line		Мс	odel Numbe	ər		Ν	lanufacture	r
SQN			402 SQN-B			Lorer	n Cook Com	pany
		Product Co		Summary				
18 Gauge Galvanized C	arbon Steel Housing; Al	uminum Fan	Wheel					
		Options / Su	=		-			
Baldor 10 HP Belt Drive	Motor; Motor Cover/Belt	Guard; Univ	ersal Mount	ting Feet; A	ccess Doors			
		OD	CODE	~				
		FUK		COA				
			JT Propertie	es	2			
Weight	4	Dimensio			4		st Nat. Freq.	
[lbs]	Length	Wid			eight	F-B	S-S	V
735	50.3	55.		U U	2.4	5.0	2.0	2.2
		lighest Pass					-	f .
Building Code	Test Criteria	BY S <sub>DS/loh</sub>	am <mark>z/h</mark> ad	Karlm	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2022	ICC-ES AC156	2.28	1.0	1.5	3.65	2.74	1.52	0.61
		DATE.	10/03/2	022		-	-	-
		A REPORT OF A R	Nounting Do	A DESCRIPTION OF TAXABLE			<u> </u>	4/47
	ng (4) Caldyn JQBKS-ET							
steel angle brackets usir per isolator.	ng (2) 5/16" Grade 2 bolt	ι each, and w	vere connec	ted to the s	nake table us	sing (2) 1/2"	alameter Gr	ade 5 bolts
วิธา เริ่มใช่ไปไ.	The second se	1			Y			
		VT		E CO				
		BU	IDIN	A C	1000	and a		
		1-1	LUI			1		
		2		A DESCRIPTION OF	- ar			
	ALLEN	1000	-	ALC: NO	+ 6	145		
	No. of Concession, name	Warman .			11-1-1			
						7		
	A REAL PROPERTY.	9						
		1		Time	0	1		
		1	-					
						R		
		1	- Frank	1 A				
	10-2-	C A	-		the t	-		
		in the second se	and the second second					
		and the second second	be for the	The second second	*1	-		
	- 1 1 the start	-		62	2.02.2011	10		
	And the second sec							



#### UUT-6

#### Test Report: EL:9580 Model Line Model Number Manufacturer SQN 165 SQN-D Loren Cook Company **Product Construction Summary** 18 Gauge Galvanized Carbon Steel Housing; Aluminum Fan Wheel **Options / Subcomponent Summary** A.O. Smith 2 HP Direct Drive Motor; Universal Mounting Feet; Access Doors **UUT** Properties Dimensions [ in ] Lowest Nat. Freq. [ Hz ] Weight [ lbs ] Width Height Length F-B S-S V 130 27.3 25.3 52.7 7.0 3.0 3.7 UUT Highest Passed Seismic Run Information **Building Code** Test Criteria z/h A<sub>RIG-V</sub> S<sub>DS</sub> Ip. A<sub>FLX-H</sub> A<sub>RIG-H</sub> A<sub>FLX-V</sub> 2.50 1.0 1.5 4.00 3.00 1.67 0.67 CBC 2022 ICC-ES AC156 \_ \_ **Test Mounting Details** UUT-6 was isolated using (4) Caldyn JQAE79K spring isolators. The isolators were connected to the equipment via 1/4" carbon steel angle brackets using (1) 5/16 Grade 2 bolt each, and were connected to the shake table using (2) 1/2" diameter Grade 5 bolts per isolator.



UUT-7

QMX       90 QMX-HP       Loren Cook Company         Product Construction Summary         eavy Gauge Carbon Steel Housing and Fan Wheel. Fan Housing Attached to Carbon Steel Base Frame         Options / Subcomponent Summary         aldor 3 HP Belt Drive Motor in Position "E"; Motor Cover/Belt Guard; Adjustable Motor Base; Inlet/Outlet Collars; Extended Lul nes         UUT Properties         UUT Properties         Weight       Dimensions [ in ]       Lowest Nat. Freq. [ Hz ]         [ Ibs ]       Length       Width       Height       F-B       S-S       N         180       19.8       15.9       30.0       N/A       N/A       N         UUT Highest Passed Seismic Run Information         Building Code       Test Criteria       Sps       z/h       A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub>			Mode	l Number		N	lanufacture	r
Product Construction Summary           Product Construction Summary           options / Subcomponent Summary           aldor 3 HP Belt Drive Motor in Position "E"; Motor Cover/Belt Guard; Adjustable Motor Base; Inlet/Outlet Collars; Extended Lulnes           UUT Properties           UUT Highest Passed Seismic Run Information           Building Code         Test Criteria         Spain         z/h         Arks. Arko.H         Arks.V         Arks.C.H           Direct Mounting Details           JT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded root	OMX							
wavy Gauge Carbon Steel Housing and Fan Wheel. Fan Housing Attached to Carbon Steel Base Frame         Options / Subcomponent Summary         uldor 3 HP Belt Drive Motor in Position "E"; Motor Cover/Belt Guard; Adjustable Motor Base; Inlet/Outlet Collars; Extended Lul les         UUT Properties         UUT Properties         Weight       Dimensions [ in ]       Lowest Nat. Freq. [Hz]         [ Ibs ]       Length       Width       Height       F-B       S-S       N         180       19.8       15.9       0       N/A       N/A       N         UUT Highest Passed Seismic Run Information         Building Code       Test Criteria       Spsic       Z/h       4.00       3.00       1.67       0.1         Test Mounting Details	QUIX					20101		pully
Options / Subcomponent Summary         Uldor 3 HP Belt Drive Motor in Position "E"; Motor Cover/Belt Guard; Adjustable Motor Base; Inlet/Outlet Collars; Extended Lultes         UUT Properties         UUT Height       F-B       S-S       N         UUT Highest Passed Seismic Run Information         Building Code       Test Criteria       Sast       Z/h       AFLX:H       ARIG:H       AFLX:V       AR         DIT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded root								
Idor 3 HP Belt Drive Motor in Position "E"; Motor Cover/Belt Guard; Adjustable Motor Base; Inlet/Outlet Collars; Extended Lules         UUT Properties         Weight       Lowest Nat. Freq. [Hz]         [ Ibs ]       Length       Width       Height       F-B       S-S       V         180       19.8       15.9       30.0       N/A       N/A       N/A         UUT Highest Passed Seismic Run Information         Building Code       Test Criteria       Sps1       Z/h       Ip       A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub> CBC 2022       ICC-ES AC156       2.50       1.0       1.5       4.00       3.00       1.67       0.1         Test Mounting Details	eavy Gauge Carbon S	teel Housing and Fan V	Vheel. Fan Housi	ng Attached to Car	bon Steel Bas	se Frame		
Weight       Lowest Nat. Freq. [Hz]         Weight       Dimensions [ in ]       Lowest Nat. Freq. [Hz]         [ lbs ]       Length       Width       Height       F-B       S-S       N         180       19.8       15.9       30.0       N/A       N/A       N/A         UUT Highest Passed Seismic Run Information       CBC 2022       ICC-ES AC156       Z.50       1.0       1.5       4.00       3.00       1.67       0.1         Test Mounting Details         JT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded root								
UUT Properties         UUT Properties       Lowest Nat. Freq. [Hz]         Weight       Dimensions [ in ]       Lowest Nat. Freq. [Hz]         [ lbs ]       Length       Width       Height       F-B       S-S       N         180       19.8       15.9       -0.2       30.0       N/A       N/A       N/A         UUT Highest Passed Seismic Run Information         Building Code       Test Criteria       Sost       Z/h       I.e. AreLx.H       AreLx.H       AreLx.V       AreLX.V         CBC 2022       ICC-ES AC156       2.50       1.0       1.5       4.00       3.00       1.67       0.1         T-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded root	ldor 3 HP Belt Drive	Motor in Position "E": M	•	•	•	et/Outlet Col	llars: Extend	ed Lube
Weight [ lbs ]         Dimensions [ in ]         Lowest Nat. Freq. [ Hz ]           [ lbs ]         Length         Width         Height         F-B         S-S         N           180         19.8         15.9         30.0         N/A         N/A         N/A           UUT Highest Passed Seismic Run Information           Building Code         Test Criteria         Sps         z/h         Ip         A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub> CBC 2022         ICC-ES AC156         2.50         1.0         1.5         4.00         3.00         1.67         0.0           Test Mounting Details			olor Cover/Beil G	iuaru, Aujustable M	oloi dase, ini		ilars, Exterio	
Weight [ lbs ]         Dimensions [ in ]         Lowest Nat. Freq. [ Hz ]           [ lbs ]         Length         Width         Height         F-B         S-S         N           180         19.8         15.9         30.0         N/A         N/A         N/A           UUT Highest Passed Seismic Run Information           Building Code         Test Criteria         Sps         z/h         Ip         A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub> CBC 2022         ICC-ES AC156         2.50         1.0         1.5         4.00         3.00         1.67         0.0           Test Mounting Details								
Weight [ lbs ]         Dimensions [ in ]         Lowest Nat. Freq. [ Hz ]           [ lbs ]         Length         Width         Height         F-B         S-S         N           180         19.8         15.9         30.0         N/A         N/A         N/A           UUT Highest Passed Seismic Run Information           Building Code         Test Criteria         Sps         z/h         Ip         A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub> CBC 2022         ICC-ES AC156         2.50         1.0         1.5         4.00         3.00         1.67         0.0           Test Mounting Details			FORC	ODECO				
Weight [ Ibs ]         Dimensions [ in ]         Lowest Nat. Freq. [ Hz ]           [ Ibs ]         Length         Width         Height         F-B         S-S         N           180         19.8         15.9         30.0         N/A         N/A         N/A           UUT Highest Passed Seismic Run Information           Building Code         Test Criteria         Sps         z/h         Ip         A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub> CBC 2022         ICC-ES AC156         2.50         1.0         1.5         4.00         3.00         1.67         0.0           Test Mounting Details           JT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded root				Properties				
Ibs         Length         Width         Height         F-B         S-S         N           180         19.8         15.9         30.0         N/A         N/A         N/A         N/A           UUT Highest Passed Seismic Run Information         UUT Highest Passed Seismic Run Information         A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub> CBC 2022         ICC-ES AC156         2.50         1.0         1.5         4.00         3.00         1.67         0.0           Test Mounting Details           JT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded root	Weight	S				Lowes	st Nat. Freq	[Hz]
180         19.8         15.9         30.0         N/A         N/A<	-	Length		<u> </u>	eight		-	V
Building Code     Test Criteria     S <sub>DS</sub> z/h     IP     A <sub>FLX-H</sub> A <sub>RIG-H</sub> A <sub>FLX-V</sub> A <sub>R</sub> CBC 2022     ICC-ES AC156     2.50     1.0     1.5     4.00     3.00     1.67     0.0       Test Mounting Details       JT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded root	180		15.9			N/A	N/A	N/A
CBC 2022         ICC-ES AC156         2.50         1.0         1.5         4.00         3.00         1.67         0.0           Test Mounting Details         Tes		UUT	Highest Passed	Seismic Run Info	rmation			
CBC 2022         ICC-ES AC156         2.50         1.0         1.5         4.00         3.00         1.67         0.0           Test Mounting Details         Tes	Building Code	Test <mark>Criter</mark> ia	BVS <sub>ps/ohan</sub>	z/had Karlm	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
JT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded roo	CBC 2022			1.0 1.5	4.00	3.00	1.67	0.67
JT-7 was ceiling suspended, using (4) Caldyn HH30 ET129 spring isolators, with 3/8" ASTM A307 Grade A steel threaded roo	CDC 2022	ICC-LS ACTS	DATE. 10	102/2022	-	-	-	-
			DA Test Mot	inting Details				
A A A				cal cables at each	cornor			



## Summary Sheet

UUT-8

						Test	Report: EL:9	763; UUT-2
Model Line		M	odel Numb	er		n	Manufacture	er
QMX		2	270 QMX-XF	þ		Lore	n Cook Com	ipany
		Product Co	onstruction	Summary				
leavy Gauge Carbon S	teel Housing and Fan W	heel. Fan Ho	ousing Attac	hed to Carb	oon Steel Bas	se Frame		
		Options / Su			-			
aldor 25 HP Belt Drive ines	Motor in Position "C"; M	otor Cover/B	Selt Guard; A	Adjustable M	lotor Base; Iı	nlet/Outlet C	ollars; Exten	ided Lube
	E		JT Properti	es				
Weight	S	Dimensio				Lowe	st Nat. Freq.	. [ Hz ]
[ lbs ]	Length	Wio		He	ight	F-B	S-S	v
1,370	47.0	(41			2.9	N/A	N/A	N/A
	UUT H	lighest Pass	sed Seismic	Run Infor	mation		<u> </u>	
Building Code	Test <mark>Criter</mark> ia	SVS <sub>DS/Ob</sub>	am <sup>z/h</sup> ad	Karim	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
CBC 2022	ICC-ES AC 150		10/00/0		-	-	-	-
		Test I	Mounting D	etails				
-	r braced with (2) 3/8" dia	VIA BL						
All units v	were filled with contents	7 and maintair	ned structura	al integrity a	ind functiona	lity after AC-	-156 test.	



## **Summary Sheet**

UUT-9

Test Report: EL:9763; UUT-3

Model Line	•	м	odel Numb	er		Ν	Manufacture	)r
QMX			600 QMX			Lore	n Cook Com	ipany
	!	Product C	onstructior	Summary				
Heavy Gauge Carbon S	Steel Housing and Fan V	Vheel. Fan H	ousing Attac	ched to Carb	on Steel Ba	se Frame		
		Options / Su	Ibcompone	ent Summar	у			
	ve Motor in Position "C";	Motor Cover	/Belt Guard;	Adjustable	Motor Base;	Inlet/Outlet	Collars; Exte	ended Lube
lines								
		aD	CODE					
		FOR		CON				
		V U	JT Properti	es				
Weight			ons [ in ]		4	Lowes	st Nat. Freq	. [ Hz ]
[ lbs ]	Length	Wi	dth	He	ight	F-B	S-S	V
6,070	95.5		9P-02		2.1	N/A	N/A	N/A
		Highest Pas	sed Seismi	c Run Infor	mation			
Building Code	Test Criteria	BV S <sub>pslob</sub>	am <sup>z/h</sup> ad	Karlm	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		DATE.	10/03/2	0000	-	-	-	-
		Test	Mounting D	etails				
each corner.	Mounting Rails	MIA BL						
All units	were filled with contents	and maintai	ned structur	al integrity a	nd functiona	lity after AC-	-156 test.	



### **Summary Sheet**

UUT-10

						Test F	Report: EL:9	703, 001-4
Model Line		М	odel Numbe	er		Ν	lanufacture	r
QMX			90 QMX			Lore	n Cook Com	pany
		Product Co	onstruction	Summary				
Heavy Gauge Carbon S	teel Housing and Fan V	Vheel. Fan Ho	ousing Attac	hed to Carb	on Steel Bas	se Frame		
		Options / Su	=		-			
Baldor 3 HP Belt Drive I	Motor in Position "C"; M	otor Cover/Be	elt Guard; Ad	justable Mo	otor Base; Inl	et/Outlet Co	llars; Extend	ed Lube
Lines								
		OP	CODE					
		FOR		COA				
			JT Propertie	es		-		
Weight	4	Dimensio			4		st Nat. Freq	
[ lbs ]	Length	Wie		-	ight	F-B	S-S	V
240	19.9		<u>9P-021</u>	0	1.3	4.9	7.7	11.4
Puilding Code	Test Criteria	Highest Pase				•	۸	٨
Building Code	Test Criteria	2.50	am <mark>z/h</mark> ad 1.0	Karl <sub>P</sub> m 1.5	А <sub>FLX-Н</sub> 4.00	<b>А<sub>RIG-Н</sub></b> 3.00	Α <sub>FLX-V</sub> 1.67	<b>Α<sub>RIG-V</sub></b> 0.67
CBC 2022	ICC-E <mark>S AC1</mark> 56	2.30	1.0	1.5	4.00	-	-	-
		DATE	Mounting D		0	-	-	-
UUT-10 was isolated us Grade 5 bolt each, and	were connected to the s							(,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,



## Summary Sheet

UUT-11

					lest	Report: EL:9	763; UUT-5
	Мо	del Numbe	r				
		270 QMX			Lorer	n Cook Com	pany
	Product Co	nstruction	Summarv				
eel Housing and Fan W			-	on Steel Bas	se Frame		
C C		•					
	Options / Su	bcomponer	t Summar	у			
Motor in Position "A"; M	otor Cover/Be		djustable M	lotor Base; Ir	nlet/Outlet Co	ollars; Exten	ded Lube
	FOR		COA				
A		A R REAL A NOV REAL AND A	s		-		
L.						-	
			-				V
					2.7	2.2	5.4
	NTRIYNXNXNXN				Δ	Δ	A <sub>RIG-V</sub>
Test Offeria		ammaup	<del></del>				•~RIG-V 0.67
ICC-E <mark>S AC1</mark> 56	-	-	-	-	-	-	-
	DATE: N	lounting De	etails	50			
vere connected to the sl	nake table us						j (1) 172
	Length 47.0 UUT F Test Criteria ICC-ES AC156	Product Co eel Housing and Fan Wheel. Fan Ho Options / Sul Motor in Position "A"; Motor Cover/Be UU Dimensio Length Wid 47.0 41: UUT Highest Pass Test Criteria Sps ICC-ES AC156 - Test M ng (4) Caldyn JQBET473K spring isc	270 QMX         Product Construction         eel Housing and Fan Wheel. Fan Housing Attach         Options / Subcomponen         Motor in Position "A"; Motor Cover/Belt Guard; Ad         Options / Subcomponen         Motor in Position "A"; Motor Cover/Belt Guard; Ad         UUT Propertie         Dimensions [ in ]         UUT Propertie         Dimensions [ in ]         Length Width         41.3 P-02         UUT Highest Passed Seismic         Test Criteria         Sps       z/h         ICC-ES AC156         Test Mounting Dee         mg (4) Caldyn JQBET473K spring isolators. The inverse connected to the shake table using (2) 1/2" or the state table using (2) 1/2" or the s	Product Construction Summary         eel Housing and Fan Wheel. Fan Housing Attached to Carb         Options / Subcomponent Summar         Motor in Position "A"; Motor Cover/Belt Guard; Adjustable M         UUT Properties         Dimensions [ in ]         Length       Width       He         47.0       41.3       0       62         UUT Highest Passed Seismic Run Inform         Test Criteria       Sps       z/h       Ip         ICC-ES AC156         Test Mounting Details         mg (4) Caldyn JQBET473K spring isolators. The isolators we vere connected to the shake table using (2) 1/2" diameter G	270 QMX         Product Construction Summary         eel Housing and Fan Wheel. Fan Housing Attached to Carbon Steel Bas         Options / Subcomponent Summary         Motor in Position "A"; Motor Cover/Belt Guard; Adjustable Motor Base; Ir         UUT Properties         Dimensions [ in ]         Length         Width         Height         41.3 - 0         UUT Properties         Dimensions [ in ]         Length       Width         Height         41.3 - 0       62.9         UUT Highest Passed Seismic Run Information         Test Criteria         Sps       z/h       Ip       A <sub>FLX-H</sub> ICC-ES AC156         Test Mounting Details         mg (4) Caldyn JQBET473K spring isolators. The isolators were connected vere connected to the shake table using (2) 1/2" diameter Grade 5 bolts	270 QMX       Loren         Product Construction Summary         eel Housing and Fan Wheel. Fan Housing Attached to Carbon Steel Base Frame         Options / Subcomponent Summary         Motor in Position "A"; Motor Cover/Belt Guard; Adjustable Motor Base; Inlet/Outlet Component Summary         UUT Properties         Length       Width       Height       F-B         UUT Properties         Dimensions [ in ]       Lowest         Length       Width       Height       F-B         47.0       41.3       -         UUT Highest Passed Seismic Run Information         Test Criteria       Sps       -         Test Mounting Details         mg (4) Caldyn JQBET473K spring isolators. The isolators were connected to the equivere connected to the shake table using (2) 1/2" diameter Grade 5 bolts per isolator.	270 QMX       Loren Cook Com         Product Construction Summary         eel Housing and Fan Wheel. Fan Housing Attached to Carbon Steel Base Frame         Options / Subcomponent Summary         Motor in Position "A"; Motor Cover/Belt Guard; Adjustable Motor Base; Inlet/Outlet Collars; Exten         UUT Properties         Length       Lowest Nat. Freq.         UUT Properties       Lowest Nat. Freq.         UUT Highest Passed Seismic Run Information       F-B       S-S         Test Criteria       Sps       Z/h       AFLXH       ARIG-H       AFLX-V         ICC-ES AC156       Sps       Z/h       A FLXH       ARIG-H       AFLX-V         ICC-ES AC156       Sps       Z/h       A FLXH       ARIG-H       AFLX-V         ICC-ES AC156       Sps       Z/h       A FLXH       ARIG-H       AFLX-V         ICC-ES AC156       IC       ICC-ES AC156       IC       ICC-ES AC156       IC        IC <td< td=""></td<>



#### **UUT-13**

Model Line QMX eavy Gauge Carbon Ste	el Housing and Fan V	e Product C	odel Numbe 600 QMX-XF onstruction ousing Attac	Summary			<b>lanufacture</b> n Cook Com	
eavy Gauge Carbon Ste	el Housing and Fan V	Product C	onstruction	Summary		Lorei		ipany
	el Housing and Fan V			-				
	el Housing and Fan	Wheel. Fan Ho	ousing Attac	hed to a Ca				
ldor 100 HP Belt Drive					rbon Steel B	ase Frame		
Idor 100 HP Belt Drive		Options / Su	Ibcompone	nt Summar	у			
	Motor in Position "A"	; Motor Cover/	Belt Guard;	Adjustable I	Motor Base;	Inlet/Outlet (	Collars; Exte	nded Lu
ies								
		OD	CODE					
		FOR		COA				
			JT Propertie	es				
Weight		Dimensi					st Nat. Freq	
[lbs]	Length	Wie			ight	F-B	S-S	V
7,385	95.5		<u>9P-021</u>	0	2.1	2.6	2.1	5.1
		Highest Pass		aaaaaaaaaa				
Building Code	Test Criteria	BySpsloh	am <mark>z/h</mark> ad	Karlm	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG</sub>
CBC 2022	ICC-E <mark>S AC1</mark> 56	2.00	1.0	1.5	3.20	2.40	-	-
		3.20	0.0 Mounting D	1.5	-0	-	2.13	0.8
ade 8 bolt each, and we	ere connected to the	shake table us	A A A A A A A A A A A A A A A A A A A	diameter G	rade 8 boils			



### UUT-14

Model Line		Model N	lumber		ſ	Manufacture	r
SQN		70 SC	QN-D		Lore	n Cook Com	pany
		Product Constru	uction Summary				
Ivanized Carbon Stee	I Housing						
	-						
		Options / Subcom	ponent Summa	ry			
	d Wheel with Carbon S		vable Access Do	ors; Inlet and	l Discharge	Duct Collars;	; Univers
unting Feet; 1/2 HP, 1	120/208-240VAC EC M	lotor					
		-DCO	DE				
		FORCO	DE COA				
		UUT Pro	operties	0			
Weight	L.	Dimensions [ i	n 1	1	Lowe	st Nat. Freq	[ Hz ]
[lbs]	Length	Width		eight	F-B	S-S	V
50	14.0	(12.0P-		5.6	N/A	N/A	N/A
		Highest Passed So					
Building Code	Test Criteria	BV <sup>Spsloham<sup>z/</sup></sup>	hadkarh	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG</sub>
-			нацпанні		1		
CBC 2022	ICC-ES AC156	2.00 1.	0 1.5	3.20	2.40	-	-
T-14 was ceiling susp	ICC-ES AC156 Dended, using (4) Kinet	2.00 1. 3.20 0. Test Mount tics SH-1-70 spring	0 1.5 0 1.5 ing Details isolators, with 3/8	3.20	2.40 -	- 2.13	- 0.85 I drop ro



### Summary Sheet

UUT-15

Model Line							Test Re	pon. 1 <del>4</del> 270
0.011		M	odel Numbe	er		Ν	lanufacture	r
SQN			70 SQN-D			Lorei	n Cook Com	pany
	I	Product Co	onstruction	Summary				
Galvanized Carbon Stee	el Housing							
		Options / Su	bcompone	nt Summar	у			
0" Al Backward Incline	d Wheel with Carbon St	teel Housing;	Removable	Access Do	ors; Inlet and	Discharge [	Duct Collars	; Universal
Nounting Feet; 1/6 HP,	120/208-240VAC EC M	otor						
		FOR	CODE	Co				
			JT Propertie					
Weight	,S	Dimensio				Lowes	st Nat. Freq	. [ Hz ]
[lbs]	Length	Wic	dth	He	ight	F-B	S-S	v
86	14.0	(12	9P-021	9 2	5.6	12.9	12.5	>33.3
		Highest Pass	sed Seismic	Run Infor	mation			
Building Code	Test Criteria	BVS <sub>ps/ob</sub>	an z/h ad	Karlm	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
		2.00	1.0	1.5	3.20	2.40	-	-
CBC 2022	ICC-E <mark>S AC1</mark> 56	3.20	0.0	1.5	- I	-	2.13	0.85
		DATest	Nounting D					
ach, and were connect	ted to the shake table us	sing (2) 5/8" d		ide 8 bolts p	per isolator.	1		



#### **UUT-16**

Test Re								port: 1427
Model Line		Model Number				Manufacturer		
SQN	402 SQN-D			Loren Cook Company				
		Product Co	nstruction	Summary				
Galvanized Carbon Stee	el Housing; Aluminum F	an Wheel						
		Options / Sub	=		-			
	5" Al Backward Inclined	d Wheel; Remo	vable Acce	ess Doors; I	Universal Mo	unting Feet;	Motor Cove	r/Belt
Guard								
		2D (	ODE					
		FOR		CON				
		UU <sup>.</sup>	T Propertie	es	0			
Weight		Dimensions [ in ]				Lowest Nat. Freq. [ Hz ]		
[lbs]	Length	Width		Height		F-B	S-S	v
805	50. <mark>3</mark>	(723P-02)		9 72.4		2.4	3.4	9.8
		Highest Passe	ed Seismic	Run Infor	mation			
Building Code	Test Criteria	BVS <sub>ps/oha</sub>	amrhad	Karlm	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2022	ICC-E <mark>S AC</mark> 156	2.00	1.0	1.5	3.20	2.40	-	-
		3.20	0.0	1.5	-	-	2.13	0.85
	ted to the shake table u			GO				
		3				-		