



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

**APPLICATION #: OSP-0533**

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

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Carrier Corporation

Manufacturer's Technical Representative: Brian Monk

Mailing Address: 629 McCaffrey, Montreal, QC H4T1N3

Telephone: (514) 906-4623

Email: brian.monk@carrier.com

**Product Information**

Product Name: Air Conditioning Units

Product Type: Air Conditioning Units - Custom

Product Model Number: Varies. See Attachment

General Description: Custom Air Conditioning Units

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

**Applicant Information**

Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

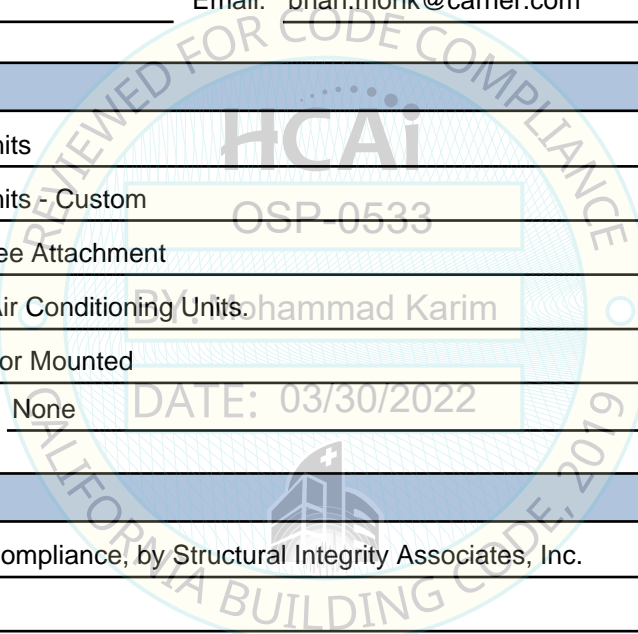
Contact Person: Galen Reid

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

Telephone: (541) 604-7225

Email: greid@structint.com

Title: Director, TRU Compliance





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

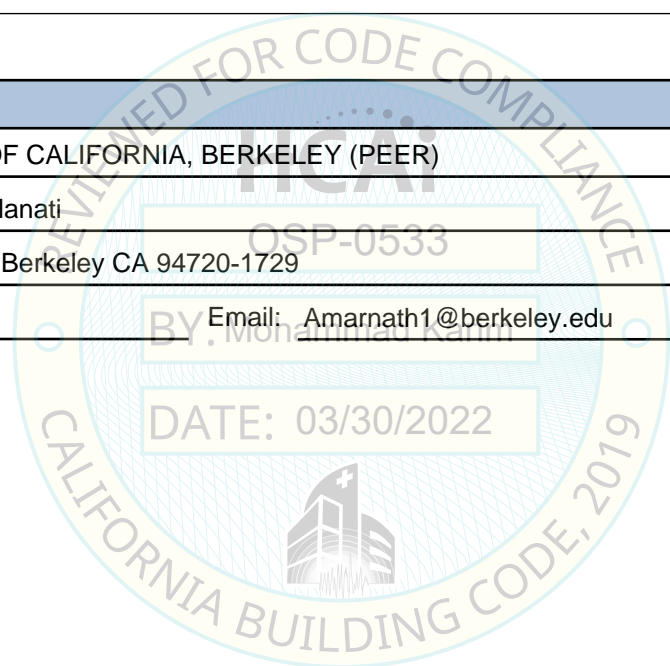
Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.  
Name: Andrew Coughlin California License Number: S6082  
Mailing Address: 5215 Hellyer Ave, Suite 101, San Jose, CA 95138-1025  
Telephone: (415) 635-8461 Email: acoughlin@structint.com

**Certification Method**

GR-63-Core       ICC-ES AC156       IEEE 344       IEEE 693       NEBS 3  
 Other (Please Specify): \_\_\_\_\_

**Testing Laboratory**

Company Name: UNIVERSITY OF CALIFORNIA, BERKELEY (PEER)  
Contact Person: Amarnath Kasalanati  
Mailing Address: 325 Davis Hall, Berkeley CA 94720-1729  
Telephone: (510) 642-3437 Email: Amarnath1@berkeley.edu





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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.5 (SDS = 2.0g); 1.44 (SDS = 3.2g)

SDS (Design spectral response acceleration at short period, g) = 2.0 (z/h = 1.0); 3.2 (z/h = 0.0)

$a_p$  (Amplification factor) = 2.5

$R_p$  (Response modification factor) = 6.0

$\Omega_0$  (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

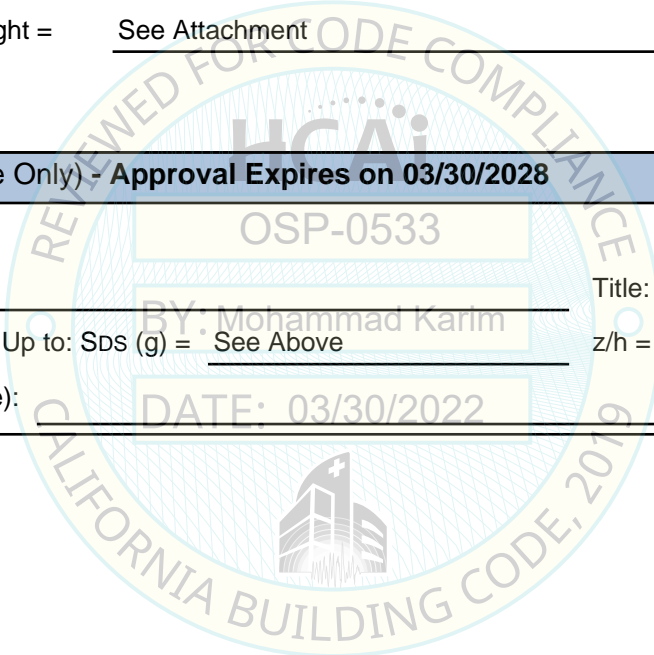
**HCAI Approval (For Office Use Only) - Approval Expires on 03/30/2028**

Date: 3/30/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable): DATE: 03/30/2022





# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2101026-CR-001-R0



<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Direct Drive Plenum Array	<b>TABLE 2</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.2g$ $z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
MPQS 1x1 Array (Twin City Fans)	122 Class II	20.0	23.0	23.0	149	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	25.4	25.4	173			Interp.
	165 Class II	23.6	28.1	28.1	250			Interp.
	182 Class II	27.4	31.8	31.8	337			Interp.
	182 Class III	27.4	31.8	31.8	373			Interp.
	200 Class II	30.0	34.5	34.5	423			Interp.
	200 Class III	30.0	34.5	34.5	467			Interp.
	222 Class II	33.4	39.8	39.8	505			Interp.
	222 Class III	33.4	39.8	39.8	555			Interp.
	245 Class II	36.8	43.3	43.3	681			Interp.
	245 Class III	36.8	43.3	43.3	748			Interp.
	270 Class II	40.5	46.9	46.9	810			Interp.
	270 Class III	40.5	46.9	46.9	944			Interp.
	300 Class III	45.0	51.5	51.5	997			Interp.
MPQS 1x2 Array (Twin City Fans)	122 Class II	20.0	46.0	23.0	298	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	50.8	25.4	346			Interp.
	165 Class II	23.6	56.1	28.1	500			Interp.
	182 Class II	27.4	63.6	31.8	674			Interp.
	182 Class III	27.4	63.6	31.8	746			Interp.
	200 Class II	30.0	69.0	34.5	846			Interp.
	200 Class III	30.0	69.0	34.5	934			Interp.
	222 Class II	33.4	79.6	39.8	1010			Interp.
	222 Class III	33.4	79.6	39.8	1110			Interp.

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<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Direct Drive Plenum Array	<b>TABLE 2</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0g \quad z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.2g \quad z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
MPQS 1x3 Array (Twin City Fans)	122 Class II	20.0	69.0	23.0	447	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	76.1	25.4	519			Interp.
	165 Class II	23.6	84.2	28.1	750			Interp.
	182 Class II	27.4	95.4	31.8	1011			Interp.
	182 Class III	27.4	95.4	31.8	1119			Interp.
	200 Class II	30.0	103.5	34.5	1269			Interp.
	200 Class III	30.0	103.5	34.5	1401			Interp.
	222 Class II	33.4	119.4	39.8	1515			Interp.
	222 Class III	33.4	119.4	39.8	1665			Interp.
MPQS 2x1 Array (Twin City Fans)	122 Class II	20.0	23.0	46.0	298	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	25.4	50.8	346			Interp.
	165 Class II	23.6	28.1	56.1	500			Interp.
	182 Class II	27.4	31.8	63.6	674			Interp.
	182 Class III	27.4	31.8	63.6	746			Interp.
	200 Class II	30.0	34.5	69.0	846			Interp.
	200 Class III	30.0	34.5	69.0	934			Interp.
	222 Class II	33.4	39.8	79.6	1010			Interp.
	222 Class III	33.4	39.8	79.6	1110			Interp.
MPQS 2x2 Array (Twin City Fans)	122 Class II	20.0	46.0	46.0	596	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	50.8	50.8	692			Interp.
	165 Class II	23.6	56.1	56.1	1000			Interp.
	182 Class II	27.4	63.6	63.6	1348			Interp.
	182 Class III	27.4	63.6	63.6	1492			Interp.

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Direct Drive Plenum Array	<b>TABLE 2</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g \quad z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.2 g \quad z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
MPQS 2x2 Array (Twin City Fans)	200 Class II	30.0	69.0	69.0	1692	Al Wheel, CS Housing		Interp.
	200 Class III	30.0	69.0	69.0	1868			Interp.
	222 Class II	33.4	79.6	79.6	2020			Interp.
	222 Class III	33.4	79.6	79.6	2220			Interp.
MPQS 2x3 Array (Twin City Fans)	122 Class II	20.0	69.0	46.0	894	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	76.1	50.8	1038			Interp.
	165 Class II	23.6	84.2	56.1	1500			Interp.
	182 Class II	27.4	95.4	63.6	2022			Interp.
	182 Class III	27.4	95.4	63.6	2238			Interp.
	200 Class II	30.0	103.5	69.0	2538			Interp.
	200 Class III	30.0	103.5	69.0	2802			Interp.
	222 Class II	33.4	119.4	79.6	3030			Interp.
222 Class III	33.4	119.4	79.6	3330		Interp.		
MPQN 1x1 Array (Twin City Fans)	122 Class II	20.0	23.0	23.0	149	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	25.4	25.4	173			Interp.
	165 Class II	23.6	28.1	28.1	250			Interp.
	182 Class II	27.4	31.8	31.8	337			Interp.
	182 Class III	27.4	31.8	31.8	373			Interp.
	200 Class II	30.0	34.5	34.5	423			Interp.
	200 Class III	30.0	34.5	34.5	467			Interp.
	222 Class II	33.4	39.8	39.8	505			Interp.
	222 Class III	33.4	39.8	39.8	555			Interp.
245 Class II	36.8	43.3	43.3	681		Interp.		

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<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Direct Drive Plenum Array	<b>TABLE 2</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0g \quad z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.2g \quad z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
MPQN 1x1 Array (Twin City Fans)	245 Class III	36.8	43.3	43.3	748	Al Wheel, CS Housing		Interp.
	270 Class II	40.5	46.9	46.9	810			Interp.
	270 Class III	40.5	46.9	46.9	944			Interp.
	300 Class II	45.0	51.5	51.5	997			1
MPQN 1x2 Array (Twin City Fans)	122 Class II	20.0	46.0	23.0	298	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	50.8	25.4	346			Interp.
	165 Class II	23.6	56.1	28.1	500			Interp.
	182 Class II	27.4	63.6	31.8	674			Interp.
	182 Class III	27.4	63.6	31.8	746			Interp.
	200 Class II	30.0	69.0	34.5	846			Interp.
	200 Class III	30.0	69.0	34.5	934			Interp.
	222 Class II	33.4	79.6	39.8	1010			Interp.
	222 Class III	33.4	79.6	39.8	1110			Interp.
	245 Class II	36.8	86.5	43.3	1362			Interp.
	245 Class III	36.8	86.5	43.3	1496			Interp.
	270 Class II	40.5	93.9	46.9	1620			Interp.
	270 Class III	40.5	93.9	46.9	1888			Interp.
	300 Class II	45.0	103.0	51.5	1994			Interp.
MPQN 1x3 Array (Twin City Fans)	122 Class II	20.0	69.0	23.0	447	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	76.1	25.4	519			Interp.
	165 Class II	23.6	84.2	28.1	750			Interp.
	182 Class II	27.4	95.4	31.8	1011			Interp.
	182 Class III	27.4	95.4	31.8	1119			Interp.



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<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Direct Drive Plenum Array	<b>TABLE 2</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.2g$ $z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
MPQN 1x3 Array (Twin City Fans)	200 Class II	30.0	103.5	34.5	1269	Al Wheel, CS Housing		Interp.
	200 Class III	30.0	103.5	34.5	1401			Interp.
	222 Class II	33.4	119.4	39.8	1515			Interp.
	222 Class III	33.4	119.4	39.8	1665			Interp.
	245 Class II	36.8	129.8	43.3	2043			Interp.
	245 Class III	36.8	129.8	43.3	2244			Interp.
	270 Class II	40.5	140.8	46.9	2430			Interp.
	270 Class III	40.5	140.8	46.9	2832			Interp.
MPQN 2x1 Array (Twin City Fans)	122 Class II	20.0	23.0	46.0	298	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	25.4	50.8	346			Interp.
	165 Class II	23.6	28.1	56.1	500			Interp.
	182 Class II	27.4	31.8	63.6	674			Interp.
	182 Class III	27.4	31.8	63.6	746			Interp.
	200 Class II	30.0	34.5	69.0	846			Interp.
	200 Class III	30.0	34.5	69.0	934			Interp.
	222 Class II	33.4	39.8	79.6	1010			Interp.
	222 Class III	33.4	39.8	79.6	1110			Interp.
MPQN 2x2 Array (Twin City Fans)	122 Class II	20.0	46.0	46.0	596	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	50.8	50.8	692			Interp.
	165 Class II	23.6	56.1	56.1	1000			Interp.
	182 Class II	27.4	63.6	63.6	1348			Interp.
	182 Class III	27.4	63.6	63.6	1492			Interp.
	200 Class II	30.0	69.0	69.0	1692			Interp.

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<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Direct Drive Plenum Array	<b>TABLE 2</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.2g$ $z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
MPQN 2x2 Array (Twin City Fans)	200 Class III	30.0	69.0	69.0	1868	Al Wheel, CS Housing		Interp.
	222 Class II	33.4	79.6	79.6	2020			Interp.
	222 Class III	33.4	79.6	79.6	2220			Interp.
MPQN 2x3 Array (Twin City Fans)	122 Class II	20.0	69.0	46.0	894	Al Wheel, CS Housing		Interp.
	150 Class II	21.0	76.1	50.8	1038			Interp.
	165 Class II	23.6	84.2	56.1	1500			Interp.
	182 Class II	27.4	95.4	63.6	2022			Interp.
	182 Class III	27.4	95.4	63.6	2238			Interp.
	200 Class II	30.0	103.5	69.0	2538			Interp.
	200 Class III	30.0	103.5	69.0	2802			Interp.
	222 Class II	33.4	119.4	79.6	3030			Interp.
222 Class III	33.4	119.4	79.6	3330		2		

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<b>Manufacturer:</b> Carrier Corporation <b>Model Line:</b> 39CC		<b>Table Description:</b> Fan Motors				<b>TABLE 3</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 3.2g \quad z/h = 0.0$		$I_P = 1.5$	
Component Type	Manufacturer	Model	Material	Description	Notes	UUT	
Fan Motors	Baldor	184		5-7.5 HP, 208-230/460V		Extrap.	
		213		5-7.5 HP, 208-230/460V		Extrap.	
		215		5-15 HP, 208-230/460V		Extrap.	
		254		5-15 HP, 208-230/460V		Extrap.	
		256	CS Housing, Cu Windings	7.5-20 HP, 208-230/460V		Extrap.	
		284		10-25 HP, 208-230/460V	UUT: 25 HP, 208-230/460V	1	
		286		15-30 HP, 208-230/460V		Interp.	
		324		20-40 HP, 208-230/460V		Interp.	
		326		25-50 HP, 230/460V	UUT: 50 HP, 230/460V	2	

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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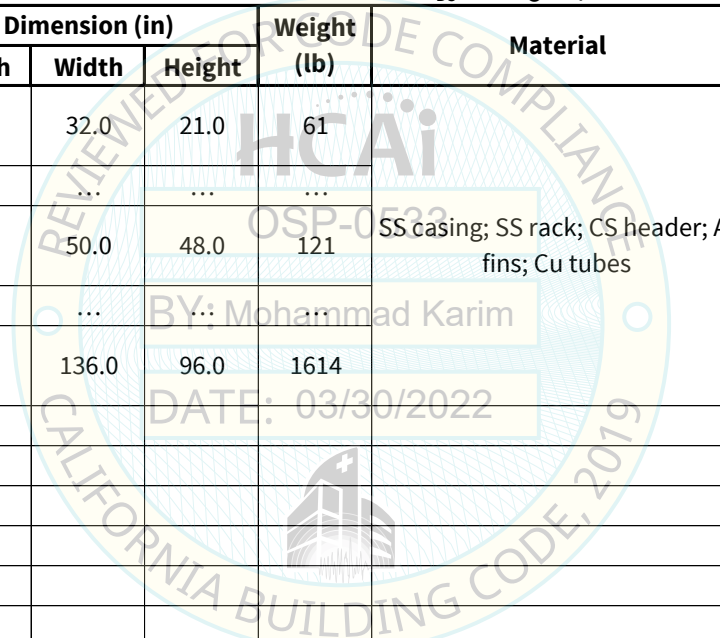


<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Hydronic Coils	<b>TABLE 4</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0g$ $z/h = 1.0$	$I_P = 1.5$
		$S_{DS} = 3.2g$ $z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Hydronic Coils - SS (Aerofin)	Single Stack	6.0	32.0	21.0	61	SS casing; SS rack; CS header; Al fins; Cu tubes		Extrap.
		...	...	...	...			Extrap.
	6.0	50.0	48.0	121	UUT:6 FPI, 1 row, 5/8" O.D., 0.020" thick		1	
	...	...	...	...			Interp.	
	Double Stack	10.0	136.0	96.0	1614	UUT:12 FPI, 8 rows, 5/8" O.D., 0.025" thick	2	

Hydronic Coils: 6-12 Fins per inch; 5/8" tube diameter; 0.020" - 0.025" thick wall



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> DX Coils	<b>TABLE 5</b>
<b>Model Line:</b> 39CC		

**Building Code:** CBC 2019      **Seismic Certification Limits:**  $S_{DS} = 2.0g \quad z/h = 1.0$        $I_p = 1.5$   
 $S_{DS} = 3.2g \quad z/h = 0.0$

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
DX Coils - SS (Aerofin)	Single Stack	7.5	32.0	21.0	63	SS casing; SS rack; Cu header, Al fins, Cu tubes		Extrap.
		...	...	...	...			Extrap.
	7.5	50.0	48.0	227			UUT: 6 FPI, 4 rows, 5/8" O.D., 0.02" thick	1
	...	...	...	...				Interp.
	Double Stack	10.0	136.0	96.0	2127		UUT: 12 FPI, 6 rows, 5/8" O.D., 0.02" thick	2

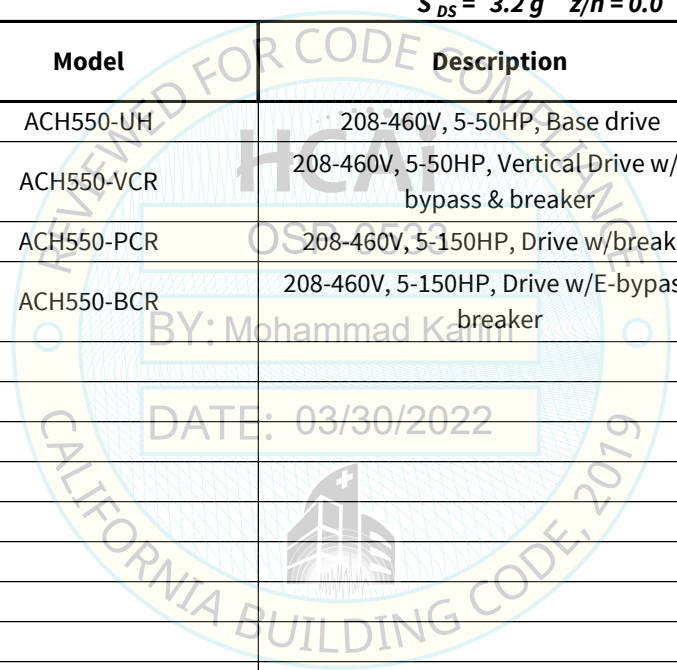
DX Coils: 6-12 Fins per inch; 5/8" tube diameter; 0.020" thick wall

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Carrier Corporation		<b>Table Description:</b> VFDs			<b>TABLE 6</b>
<b>Model Line:</b> 39CC					
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>		$S_{DS} = 2.0g$ $z/h = 1.0$	$I_p = 1.5$
				$S_{DS} = 3.2g$ $z/h = 0.0$	
<b>Component Type</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Description</b>	<b>Notes</b>	<b>UUT</b>
Variable Frequency Drive (VFD)	ABB	ACH550-UH	208-460V, 5-50HP, Base drive		Interp.
		ACH550-VCR	208-460V, 5-50HP, Vertical Drive w/ E-bypass & breaker	UUT: 208V, 7.5HP	1
		ACH550-PCR	208-460V, 5-150HP, Drive w/breaker		Interp.
		ACH550-BCR	208-460V, 5-150HP, Drive w/E-bypass & breaker	UUT: 460V, 150HP	2



**SPECIAL SEISMIC CERTIFICATION  
CERTIFIED SUBCOMPONENT MATRIX**

**2101026-CR-001-R0**



<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Electrical Panels	<b>TABLE 7</b>
<b>Model Line:</b> 39CC		

**Building Code: CBC 2019**      **Seismic Certification Limits:**       $S_{DS} = 2.0 g \quad z/h = 1.0$        $I_p = 1.5$   
 $S_{DS} = 3.2 g \quad z/h = 0.0$

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Power Distribution Panels (Quatro)	Custom Electrical Panel	6.0	12.0	12.0	18	Carbon Steel Panel	UUT: NEMA 4	1
		...	...	...	...		Interp.	
		12.0	36.0	42.0	156		UUT: NEMA 1	2

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Carrier Corporation <b>Model Line:</b> 39CC		<b>Table Description:</b> Electrical Panel Components			<b>TABLE 7</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 3.2g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Circuit Breaker	Techna	JTECUL-1C-01	1A, 1 Pole		Extrap.	
		JTECUL-1C-04	4A, 1 Pole		Extrap.	
		JTECUL-1C-05	5A, 1 Pole		Extrap.	
		JTECUL-1C-10	10A, 1 Pole		1	
		JTECUL-1C-15	15A, 1 Pole		2	
Fuses	MERSEN	ATDR1	1A Time Delay Fuse		2	
		...			Interp.	
		ATDR10	10A Time Delay Fuse		1	
		...			Interp.	
		ATDR15	15A Time Delay Fuse		1	
		...			Interp.	
		ATDR20	20A Time Delay Fuse		2	
		ATDR300	300A Time Delay Fuse		Interp.	
		AJT1	1A Time Delay Fuse		Interp.	
		...			Interp.	
		AJT60	60A Time Delay Fuse		1	
		...			Interp.	
		AJT300	300A Time Delay Fuse		2	
Transformers	Hammond	SP50PR	120x240/12x24 50VA; Cu Windings		Interp.	
		SP100PR	120x240/12x24 100VA; Cu Windings		Interp.	
		SP150PR	120x240/12x24 150VA; Cu Windings		2	
		SP250PR	120x240/12x24 250VA; Cu Windings		Interp.	
		SP350PR	120x240/12x24 350VA; Cu Windings		Interp.	



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Carrier Corporation <b>Model Line:</b> 39CC		<b>Table Description:</b> Electrical Panel Components			<b>TABLE 7</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 2.0 g \quad z/h = 1.0$ $S_{DS} = 3.2 g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Transformers	Hammond	SP500PR	120x240/12x24 500VA; Cu Windings		Interp.	
		SP50QR	240/480-12/24 50VA; Cu Windings		Interp.	
		SP100QR	240/480-12/24 100VA; Cu Windings		Interp.	
		SP150QR	240/480-12/24 150VA; Cu Windings		Interp.	
		SP250QR	240/480-12/24 250VA; Cu Windings		Interp.	
		SP350QR	240/480-12/24 350VA; Cu Windings		Interp.	
		SP500QR	240/480-12/24 500VA; Cu Windings		Interp.	
		SP50ACP	600/480-120x240 50VA; Cu Windings		Interp.	
		SP100ACP	600/480-120x240 100VA; Cu Windings		Interp.	
		SP150ACP	600/480-120x240 150VA; Cu Windings		Interp.	
		SP250ACP	600/480-120x240 250VA; Cu Windings		Interp.	
		SP350ACP	600/480-120x240 350VA; Cu Windings		Interp.	
		SP500ACP	600/480-120x240 500VA; Cu Windings		Interp.	
		SP750ACP	600/480-120x240 750VA; Cu Windings		Interp.	
		SP1000ACP	600/480-120x240 1000VA; Cu Windings		Interp.	
		SP1500ACP	600/480-120x240 1500VA; Cu Windings		1	
		SP2000ACP	600/480-120x240 2000VA; Cu Windings		Interp.	
		SP3000ACP	600/480-120x240 3000VA; Cu Windings		2	

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

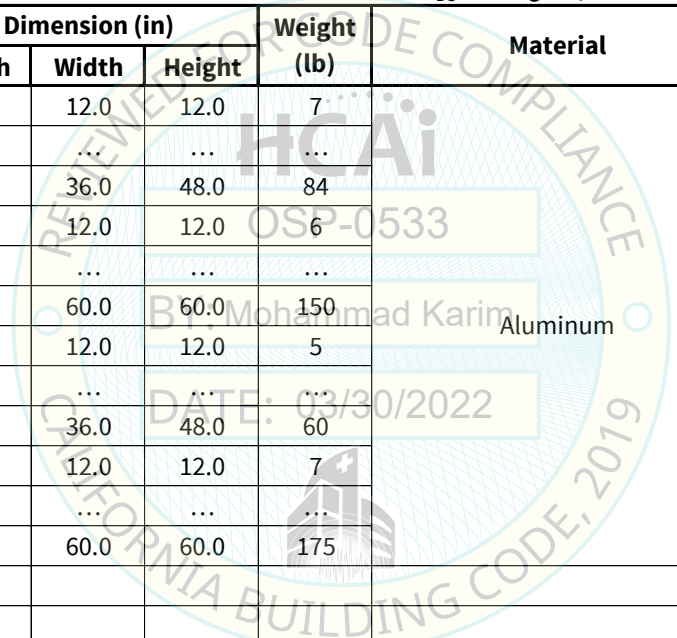
2101026-CR-001-R0



<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Dampers	<b>TABLE 8</b>
<b>Model Line:</b> 39CC		

**Building Code:** CBC 2019      **Seismic Certification Limits:**  $S_{DS} = 2.0g$   $z/h = 1.0$        $I_p = 1.5$   
 $S_{DS} = 3.2g$   $z/h = 0.0$

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Damper - Horizontal (Tamco)	1000SM	4.0	12.0	12.0	7	Aluminum	UUT: w/ Belimo EFB-24-SR Actuator	1
		...	...	...	...		Interp.	
	1000	4.0	36.0	48.0	84		UUT: w/ Belimo EFB-24-SR Actuator	2
		6.4	12.0	12.0	6		Interp.	
	7000	...	...	...	...		Interp.	
		6.4	60.0	60.0	150		Interp.	
	9000	5.0	12.0	12.0	5		UUT: No Actuator	1
		...	...	...	...		Interp.	
	5.0	36.0	48.0	60	Interp.			
	6.4	12.0	12.0	7	Interp.			
	...	...	...	...	Interp.			
	6.4	60.0	60.0	175	UUT: w/ Belimo AF Series Actuator		2	



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

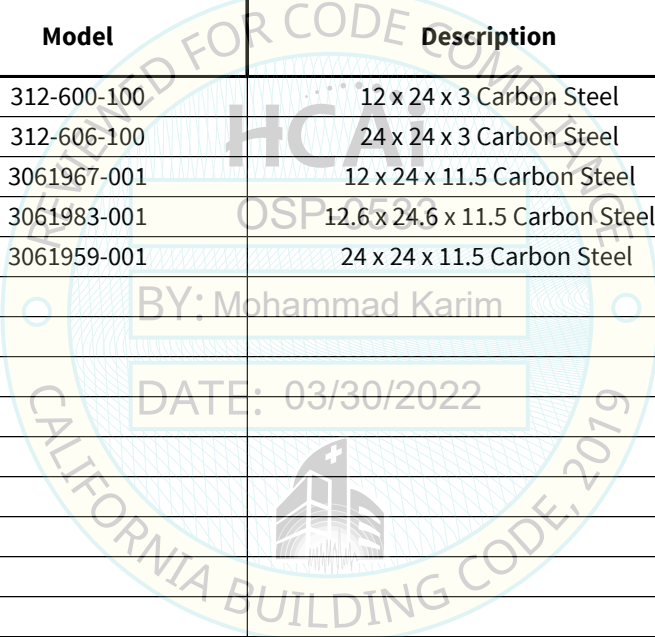
2101026-CR-001-R0



<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Filter Racks	<b>TABLE 9</b>
<b>Model Line:</b> 39CC		

**Building Code:** CBC 2019      **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
Universal Filter Racks	AAF	312-600-100	12 x 24 x 3 Carbon Steel		2
		312-606-100	24 x 24 x 3 Carbon Steel		1,2
HEPA Filter Racks	AAF	3061967-001	12 x 24 x 11.5 Carbon Steel		2
		3061983-001	12.6 x 24.6 x 11.5 Carbon Steel		2
		3061959-001	24 x 24 x 11.5 Carbon Steel		1,2



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Carrier Corporation <b>Model Line:</b> 39CC		<b>Table Description:</b> Filters			<b>TABLE 10</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 3.2g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
2" Pleated Filter	AAF	12x24x2	12x24x2 Pleated Filter		2	
		24x24x2	24x24x2 Pleater Filter		1,2	
VariCel RF SH 12" Filter	AAF	3011079-001	24x24x12 MERV 15		Interp.	
		3011079-004	24x12x12 MERV 15		Interp.	
		3011079-009	24x24x12 MERV 12		Interp.	
		3011079-012	24x12x12 MERV 12		Interp.	
		3011079-013	24x24x12 MERV 11		Interp.	
		3011079-016	24x12x12 MERV 11		Interp.	
		3011079-008	24x12x12 MERV 14		1	
		3011079-005	24x24x12 MERV 14		2	
VariSorb XL 12" Filter	AAF	3039567-001	24x12x12		2	
		3039567-002	24x24x12		1,2	
AstroCel 1 12" HEPA	AAF	HCX212x24	12x24x11.5		2	
		HCX24x24	24x24x11.5		1,2	

**SPECIAL SEISMIC CERTIFICATION  
CERTIFIED SUBCOMPONENT MATRIX**

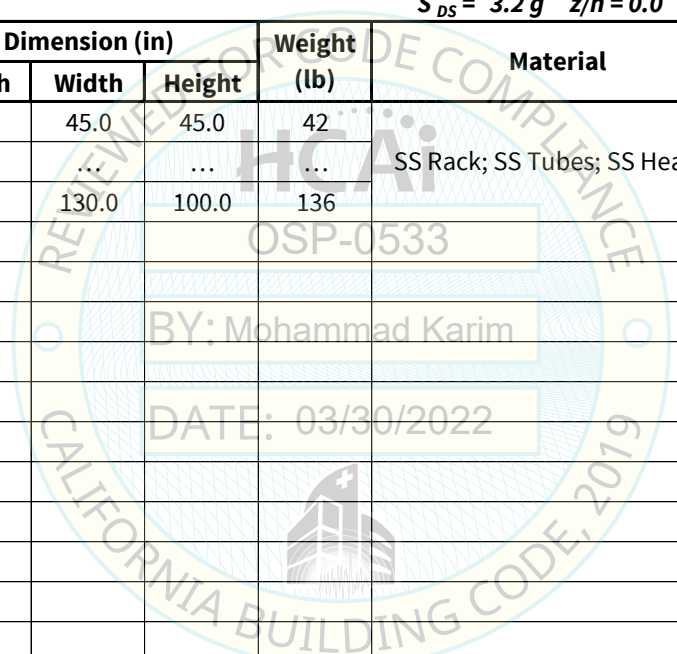
2101026-CR-001-R0



<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Humidifiers	<b>TABLE 11</b>
<b>Model Line:</b> 39CC		

**Building Code:** CBC 2019      **Seismic Certification Limits:**  $S_{DS} = 2.0g$   $z/h = 1.0$        $I_p = 1.5$   
 $S_{DS} = 3.2g$   $z/h = 0.0$

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Humidifier (Nortec Sam-E)	Vertical	9.1	45.0	45.0	42	SS Rack; SS Tubes; SS Header	UUT: Tube qty: 9; Spacing: 3"	1
		...	...	...	...		Interp.	
		9.1	130.0	100.0	136		UUT: Tube qty:12; Spacing: 12"	2



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

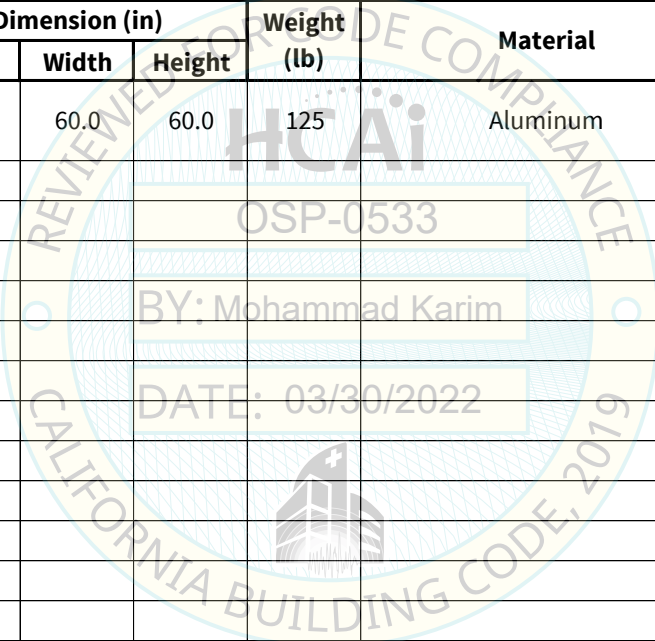
2101026-CR-001-R0



<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> Louvers	<b>TABLE 12</b>
<b>Model Line:</b> 39CC		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0g \quad z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.2g \quad z/h = 0.0$	

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Luover Horizontal (Ruskin)	EME3625	3.0	60.0	60.0	125	Aluminum		2



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Carrier Corporation	<b>Table Description:</b> UV Lights	<b>TABLE 13</b>
<b>Model Line:</b> 39CC		

**Building Code:** CBC 2019 **Seismic Certification Limits:**  $S_{DS} = 2.0g$   $z/h = 1.0$   $I_p = 1.5$   
 $S_{DS} = 3.2g$   $z/h = 0.0$

Component Type	Manufacturer	Model	Description	Notes	UUT
Lamps	UV Resources	SEL-33-HO-EL-T5	33" Single End - HO Encapsulamp		1
		SEL-61-HO-EL-T5	61" Single End - HO Encapsulamp		2
Loom Kit	UV Resources	RLM-20-LOOM-KIT-LH	20' Plenum Rated Wire w/ Lampholder		1,2
LampHolster	UV Resources	RLM-DLH-EB	Dual LampHolster - Extended Base		1,2
Switches	UV Resources	UVR-120-277V ISS	Access Interlock Safety Switch 120-277V		1,2
		UVR-RP-TS	Waterproof UV Lamp Toggle Switch		1,2
Enclosures	UV Resources	RLM-X-Box 2P	120-277V NEMA 2 Enclosure w/ CU2		1,2
		RLM-X-Box 4P	120-277V NEMA 2 Enclosure w/ CU2		1,2
		RLM-X-Box 6P	120-277V NEMA 2 Enclosure w/ CU2		1,2
Monitor	UV Resources	CU2	Lamp/Ballast Sensing Monitor		1,2

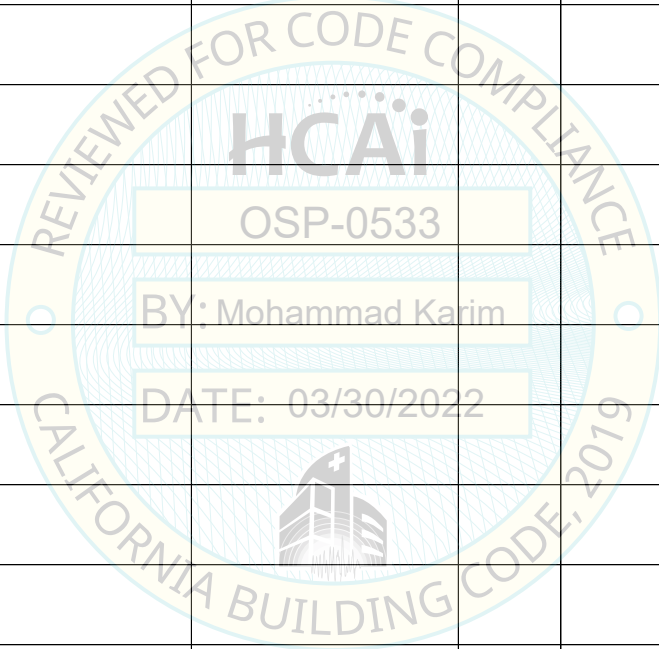
# UNIT UNDER TEST (UUT) SUMMARY SHEET



2101026-CR-001-R0

**Manufacturer:** Carrier Corporation  
**Model Line:** 39CC

UUT	Unit Description	Report Number	Testing Lab	Year Tested	ISO 17025 Accredited?	S <sub>DS</sub>	z/h	I <sub>p</sub>
1	39CCW	16022-TR-001, Rev. 01	Pacific Earthquake Engineering Research Center (PEER)	2017	YES	2.00 3.20	1.00 0.00	1.50
2	39CCM	16022-TR-001, Rev. 01	Pacific Earthquake Engineering Research Center (PEER)	2017	YES	2.00 3.20	1.00 0.00	1.50



**Notes:**



# UNIT UNDER TEST (UUT) SUMMARY SHEET

2101026-CR-001-R0



<b>Manufacturer:</b> Carrier Corporation	<b>UUT 1</b>
<b>Model Line:</b> 39CC	
<b>Model Number:</b> 39CCW <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Standard construction; 2" Panels; **Panel - Outer Skin:** 16 gauge Al; **Panel - Inner Skin:** 20 gauge Al; **Roof:** 16 gauge Al;  
**Insulation:** Foam

**Options/Subcomponent Summary:**  
MPQN 300 Class II 1x1 fan array; Baldor 25 HP motor; Aerofin single stack hydronic coils; Aerofin single stack DX coils; ABB ACH550-VCR Variable Frequency Drive; Quatro Electrical Panel; TAMCO 1000SM aluminum damper w/ Belimo EFB-24-SR actuator; TAMCO 7000 aluminum damper; Nortec SAM-E vertical humidifier; UV Light assembly.  
See tables 2-13 for a complete listing of included subcomponents.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
5,900	209.0	66.0	65.0	21.4	21.5	12.7

<i>UUT Highest Passed Seismic Run Information</i>								
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2019	ICC-ES AC156 (2010)	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0	1.5				

**Test Mounting Details:**



The unit was mounted using (14) 1/2" diameter SAE Grade 8 bolts around the perimeter of the base flange. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

# UNIT UNDER TEST (UUT) SUMMARY SHEET

2101026-CR-001-R0



**Manufacturer:** Carrier Corporation

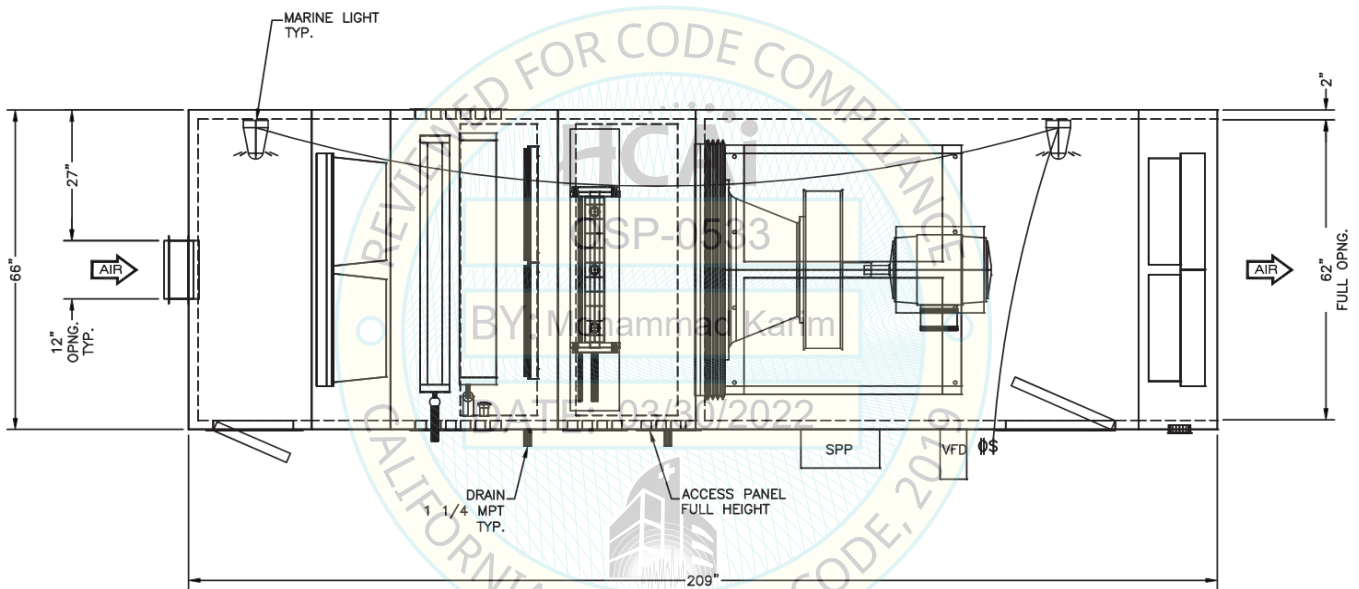
**Model Line:** 39CC

**Model Number:** 39CCW

**Serial Number:** N/A

**UUT 1**

**Layout Details:**



# UNIT UNDER TEST (UUT) SUMMARY SHEET



2101026-CR-001-R0

<b>Manufacturer:</b> Carrier Corporation	<b>UUT 2</b>
<b>Model Line:</b> 39CC	
<b>Model Number:</b> 39CCM <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Standard construction; 2" Panels; **Panel - Outer Skin:** 16 gauge Al; **Panel - Inner Skin:** 20 gauge Al; **Roof:** 16 gauge Al;  
**Insulation:** Foam

**Options/Subcomponent Summary:**  
MPQN 222 Class III 2x3 fan array; Baldor 50 HP motor; Aerofin double stack hydronic coils; Aerofin double stack DX coils; ABB ACH550-BCR Variable Frequency Drive; Quatro Electrical Panel; TAMCO 1000SM aluminum damper w/ Belimo EFB-24-SR actuator; TAMCO 9000 aluminum damper w/Belimo AF series actuator; Nortec SAM-E vertical humidifier; UV Light assembly. See tables 2-13 for a complete listing of included subcomponents.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
23,200	227.0	154.0	116.6	11.7	12.3	15.7

<i>UUT Highest Passed Seismic Run Information</i>									
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2019	ICC-ES AC156 (2010)	2.0	1.0	1.5	3.20	2.40	2.13	0.85	
		3.2	0.0	1.5					

**Test Mounting Details:**



The unit was mounted using (24) 3/4" diameter SAE Grade 8 bolts around the perimeter of the base flange. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

# UNIT UNDER TEST (UUT) SUMMARY SHEET

2101026-CR-001-R0



**Manufacturer:** Carrier Corporation

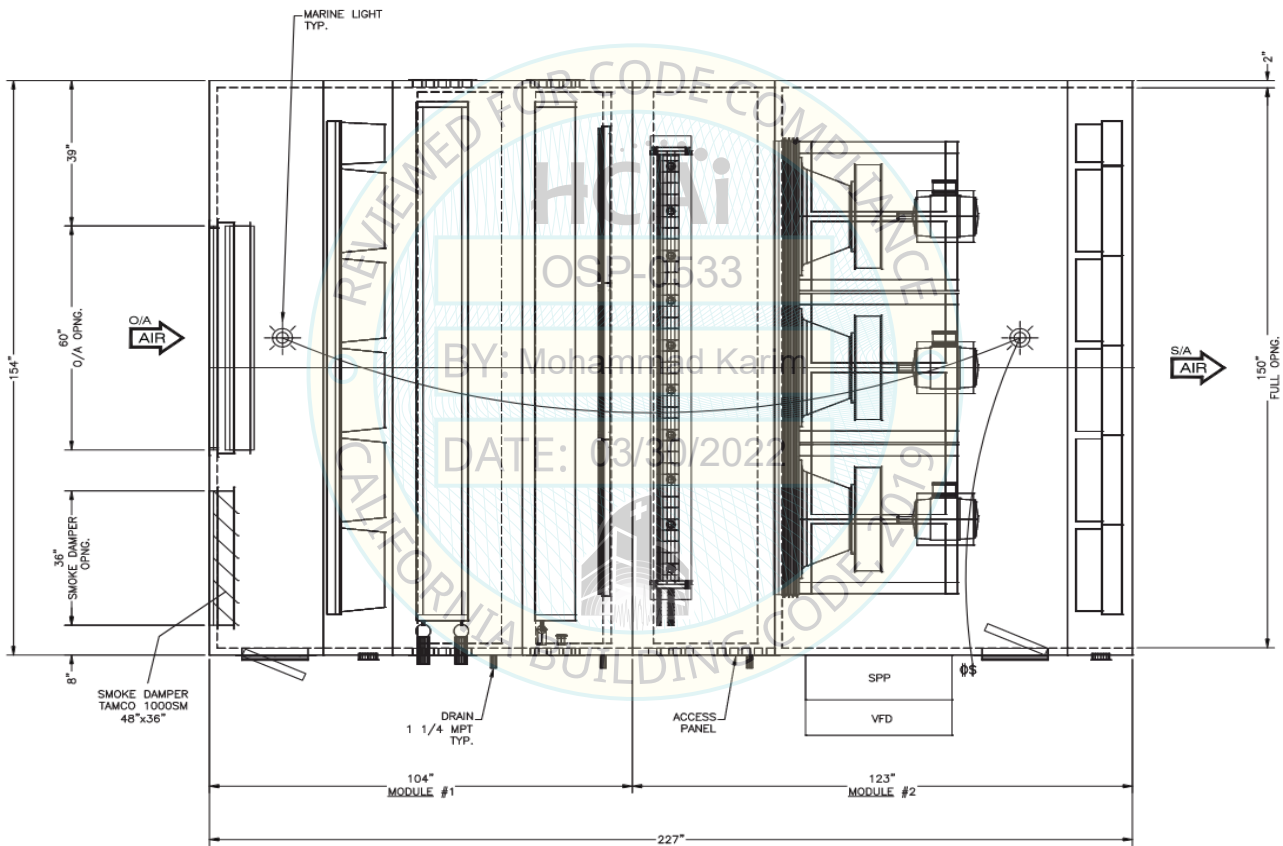
**Model Line:** 39CC

**Model Number:** 39CCM

**Serial Number:** N/A

**UUT 2**

**Layout Details:**



# UNIT UNDER TEST (UUT) SUMMARY SHEET

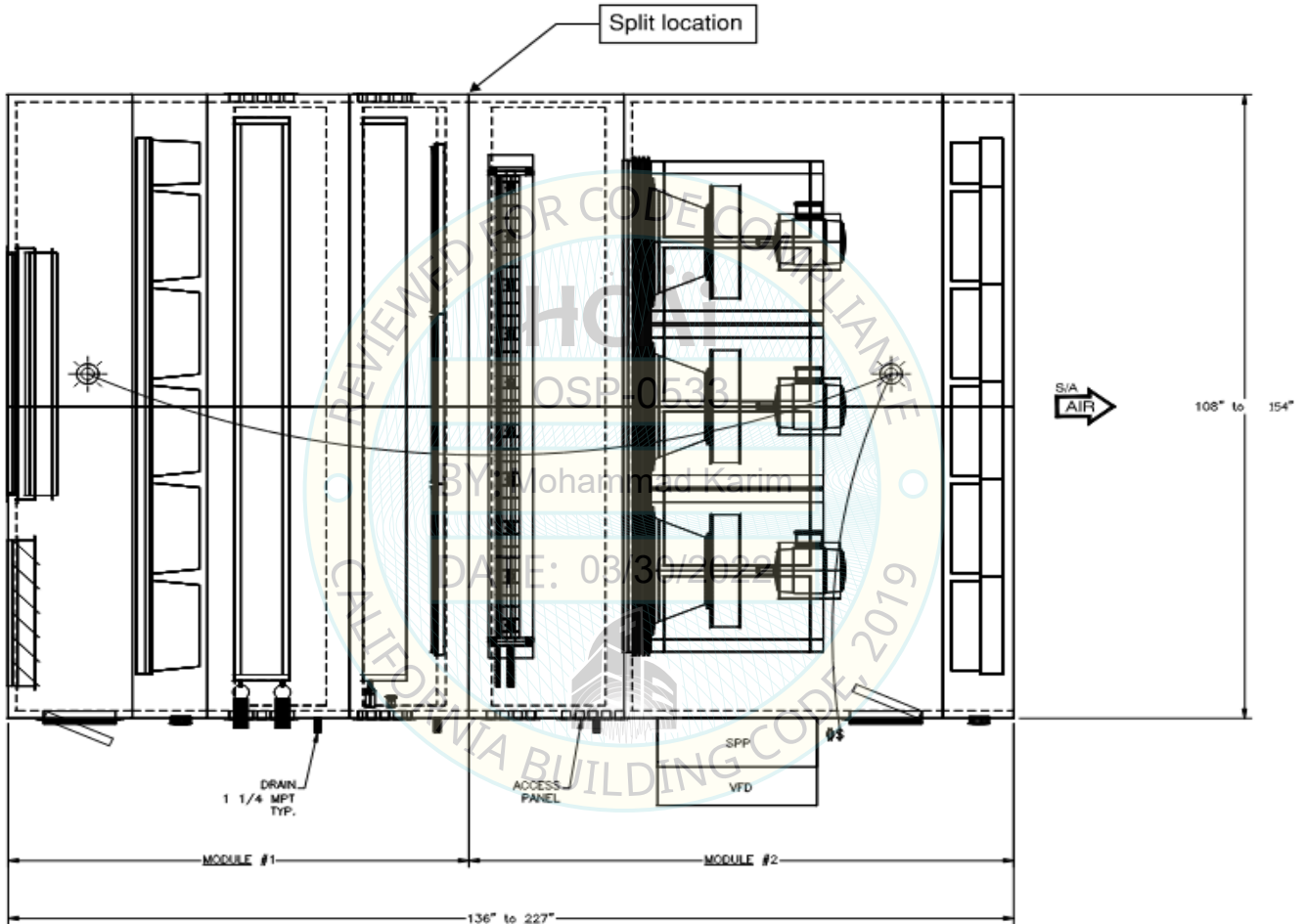
2101026-CR-001-R0



**Manufacturer:** Carrier Corporation

**Model Line:** 39CC

**Split Details:**



# UNIT UNDER TEST (UUT) SUMMARY SHEET

2101026-CR-001-R0



**Manufacturer:** Carrier Corporation

**Model Line:** 39CC

**Split Details:**

## UNIT CONSTRUCTION

### Split Detail

