



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0494

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [] New [X] Renewal

Manufacturer Information

Manufacturer: Carrier Corporation

Manufacturer's Technical Representative: Jeremy Babb

Mailing Address: 6304 Thompson Rd., Syracuse, NY 13221-4808

Telephone: (404) 803-9085 Email: jeremy.babb@carrier.com

Product Information

Product Name: Air Conditioning Units

Product Type: Air Conditioning Units - Packaged

Product Model Number: 48HC, 48FC, 48GC, 50HC, 50FC, 50GC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ

General Description: Packaged Rooftop heating/cooling units

Mounting Description: Rigid base mounted or curb mounted up to 40" tall curb or up to 34" tall iso curb., Floor Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Structural Integrity Associates, Inc.

Contact Person: Katie Braman

Mailing Address: 233 SW Wilson Suite 101, Bend, OR 92201

Telephone: (541) 526-1947 Email: kbraman@structint.com

Title: Program Manager





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

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

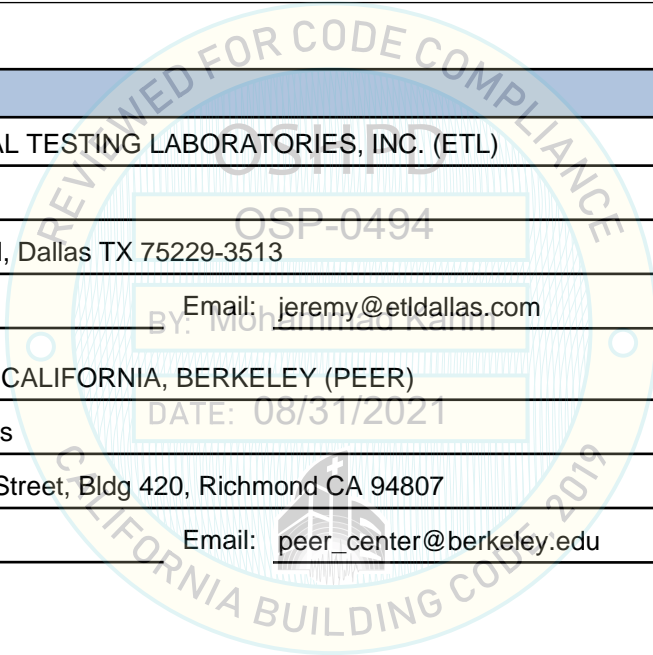
Certification Method

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

Testing Laboratory

Company Name: 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

Company Name: UNIVERSITY OF CALIFORNIA, BERKELEY (PEER)
Contact Person: Clement B Barthes
Mailing Address: 1301 South 46th Street, Bldg 420, Richmond CA 94807
Telephone: (510) 642-3437 Email: peer_center@berkeley.edu





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FACILITIES DEVELOPMENT DIVISION**

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.5 (SDS = 2.0); 1.125 (SDS = 2.5)

SDS (Design spectral response acceleration at short period, g) = 2.0g (z/h = 1.0); 2.5g (z/h = 0.0)

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

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

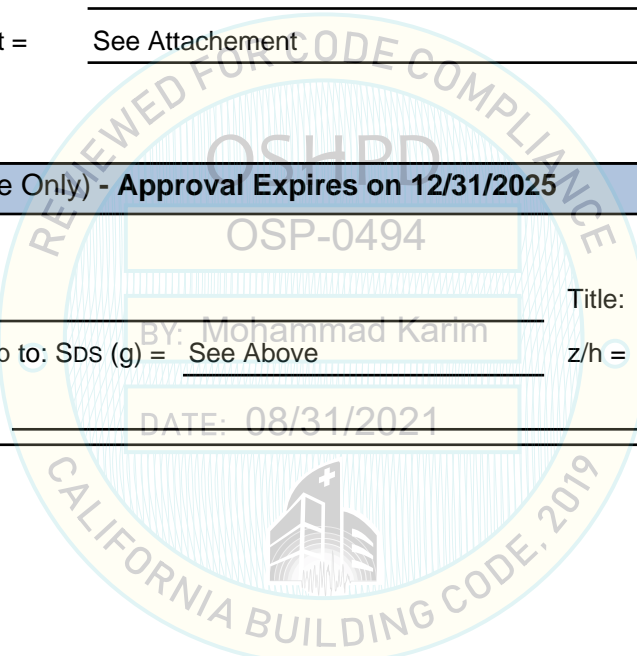
OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 8/31/2021

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: 08/31/2021



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX



2000971-CR-001-R2

Manufacturer: Carrier Corporation						TABLE 1	
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ							
Certified Product Construction Summary: Formed carbon steel construction.							
Certified Options Summary: Curb mounting on Iso curbs up to maximum of 34" tall, rigid curbs with or without filters up to maximum height of 40" tall.							
Mounting Configuration: Rigid base mounted or curb mounted on up to 40" tall rigid curb or up to 34" tall iso curb. Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2019		Seismic Certification Limits:			$S_{DS} = 2.0 g$ $z/h=1.0$	$I_p = 1.5$	
					$S_{DS} = 2.5 g$ $z/h=0.0$		
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
50GC	50GC-04	46.6	74.4	33.4	468	Nomenclature Table 1.1	Extrap.
	50GC-XX	...	...	...	...		Extrap.
	50GC-06	46.6	74.4	41.4	555		Extrap.
50FC	50FC-04	46.6	74.4	33.4	437	Nomenclature Table 1.2	Extrap.
	50FC-XX	...	...	...	...		Extrap.
	50FC-07	46.6	74.4	41.4	562		Extrap.
50GCQ	50GCQ-04	46.6	74.4	33.3	550	Nomenclature Table 1.4	9
	50GCQ-XX	...	...	...	...		Interp.
	50GCQ-06	46.6	74.4	41.4	596		Interp.
50FCQ	50FCQ-04	46.6	74.4	33.4	473	Nomenclature Table 1.3	Interp.
	50FCQ-XX	...	...	...	...		Interp.
	50FCQ-07	46.6	74.4	41.4	589		10
48FC	48FC-04	46.6	74.4	33.4	482	Nomenclature Table 1.6	Interp.
	48FC-05	46.6	74.4	33.4	543		5
	48FC-06	...	...	...	...		Interp.
	48FC-07	46.6	74.4	41.4	569		6
48GC	48GC-04	46.6	74.4	33.4	624	Nomenclature Table 1.5	8
	48GC-XX	...	...	...	...	UUT 11: 619 lbs	Interp.
	48GC-06	46.6	74.4	41.4	754	UUT 7: 754 lbs	7,11
50TCQ	50TCQ-04	46.8	74.4	33.4	505	Nomenclature Table 1.7 & 1.8	Interp.
	50TCQ-XX	...	...	...	...		Interp.
	50TCQ-24	86.4	166.4	49.4	2100		Interp.

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



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Manufacturer: Carrier Corporation		50GC 4-6 Model Line Numbering	TABLE 1.1
Model Line: 50GC 3 ton to 5 ton			
Columns 1&2	Product type	50 = Electric Heat Packaged Rooftop	
Columns 3&4	Model series	GC = 16.1 SEER Efficiency	
Column 5	Heat Size	- = No Heat	
		A = Low Electric Heat	
		B = Medium Electric Heat	
		C = High Electric Heat	
Column 6	Refrigerant System Options	M = Single Circuit, Two Stage Cooling	
		N=Single Circuit, Two Stage Cooling w/Humidi-MiZer	
		P = Two Stage Cooling with Low Ambient control	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
		J = Condensate Overflow Switch	
		K = Condensate Overflow Switch and RA Smoke Detector	
		L = Condensate Overflow Switch and RA and SA Smoke Detectors	
M = Condensate Overflow Switch and SA Smoke Detector			
Column 10	Indoor Fan Options	1 = Direct Drive - EcoBlue - Standard Static	
		2 = Direct Drive - EcoBlue - Medium Static	
		3 = Direct Drive - EcoBlue - High Static	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
S = Cu/Cu - Cu/Cu - Louvered Hail Guard			

TRU Compliance, by Structural Integrity Associates, Inc.

844.TRU.0200 | info@trucompliance.com

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		50GC 4-6 Model Line Numbering	TABLE 1.1
Model Line: 50GC 3 ton to 5 ton			
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		2 = RTU Open Multi-Protocol Controller	
		3 = SystemVu Controls	
		6 = Electromechanical Controls (Used with W7220)	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Unpowered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, Unpowered Convenience Outlet	
		5 = Hinged Panels, Powered Convenience Outlet	
		6 = MERV 8 Filters	
		C = Foil Faced Insulation	
Column 17	Electrical Options	A = None	
		B = HACR Breaker	
		C = Non-fused disconnect	
		D = Thru-the -base Connections	
		F = Non-fused Disconnect & thru-the base	
		N = Phase Monitor Protection	
		P = Phase Monitor and HACR	
		Q = Phase Monitor and NFD	
		R = Phase Monitor and TTB	
		S = Phase Monitor and HACR and TTB	
T = Phase Monitor and NFD and TTB			
Column 18	Standard Packaging	0 = Standard	
		1 = LTL	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



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Manufacturer: Carrier Corporation		50FC 4-7 Model Line Numbering	TABLE 1.2
Model Line: 50FC 4 ton to 6 ton			
Columns 1&2	Product type	50 = Electric Heat Packaged Rooftop	
Columns 3&4	Model series	FC = 14.0 SEER Standard Efficiency, Size 04-06, 15.2 IEER Standard Efficiency, Size 07	
Column 5	Heat Size	- = No Heat	
Column 6	Refrigerant System Options	A = Single One Stage Cooling Models	
		B = Single One Stage Cooling Models w/Humidi-MiZer	
		M = Single Circuit, Two Stage Cooling	
		N=Single Circuit, Two Stage Cooling w/Humidi-MiZer	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
		07 = 6 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
		J = Condensate Overflow Switch	
		K = Condensate Overflow Switch and RA Smoke Detector	
		L = Condensate Overflow Switch and RA and SA Smoke Detectors	
M = Condensate Overflow Switch and SA Smoke Detector			
Column 10	Indoor Fan Options	1 = Direct Drive - EcoBlue - Standard Static	
		2 = Direct Drive - EcoBlue - Medium Static	
		3 = Direct Drive - EcoBlue - High Static	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
S = Cu/Cu - Cu/Cu - Louvered Hail Guard			

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



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Manufacturer: Carrier Corporation		50FC 4-7 Model Line Numbering	TABLE 1.2
Model Line: 50FC 4 ton to 6 ton			
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		2 = RTU Open Multi-Protocol Controller	
		3 = SystemVu Controls	
		6 = Electromechanical Controls (Used with W7220)	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = Two position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Unpowered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, Unpowered Convenience Outlet	
		5 = Hinged Panels, Powered Convenience Outlet	
Column 17	Electrical Options	A = None	
		C = Non-fused disconnect	
		D = Thru-the -base Connections	
		F = Non-fused Disconnect & thru-the base	
Column 18	Packaging	0 = Standard	
		1 = LTL	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



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Manufacturer: Carrier Corporation		50FCQ 4-7 Model Line Numbering	TABLE 1.3
Model Line: 50FCQ 4 ton to 6 ton			
Columns 1&2	Product type	50 = Electric Heat Packaged Rooftop	
Columns 3&4	Model series	FC = 14.3 SEER Standard Efficiency, Size 04-06, 15.0 IEER Standard Efficiency, Size 07	
Column 5	Heat Size	Q = Heat Pump	
Column 6	Refrigerant System Options	A = Single One Stage Cooling Models M = Single Circuit, Two Stage Cooling	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
		07 = 6 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
		J = Condensate Overflow Switch	
		K = Condensate Overflow Switch and RA Smoke Detector	
		L = Condensate Overflow Switch and RA and SA Smoke Detectors	
Column 10	Indoor Fan Options	1 = Direct Drive - EcoBlue - Standard Static	
		2 = Direct Drive - EcoBlue - Medium Static	
		3 = Direct Drive - EcoBlue - High Static	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
S = Cu/Cu - Cu/Cu - Louvered Hail Guard			

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



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Manufacturer: Carrier Corporation		50FCQ 4-7 Model Line Numbering	TABLE 1.3
Model Line: 50FCQ 4 ton to 6 ton			
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		2 = RTU Open Multi-Protocol Controller	
		3 = SystemVu Controls	
		6 = Electromechanical Controls (Used with W7220)	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = Two position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Unpowered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, Unpowered Convenience Outlet	
		5 = Hinged Panels, Powered Convenience Outlet	
Column 17	Electrical Options	A = None	
		C = Non-fused disconnect	
		D = Thru-the -base Connections	
		F = Non-fused Disconnect & thru-the base	
Column 18	Packaging	0 = Standard	
		1 = LTL	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		50GCQ 4-7 Model Line Numbering	TABLE 1.4
Model Line: 50GCQ 3 ton to 6 ton			
Columns 1&2	Product type	50 = Electric Heat Packaged Rooftop	
Columns 3&4	Model series	16 SEER Efficiency	
Column 5	Heat Size	Q = Heat Pump	
Column 6	Refrigerant System Options	M = Single Circuit, Two Stage Cooling	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
		J = Condensate Overflow Switch	
		K = Condensate Overflow Switch and RA Smoke Detector	
		L = Condensate Overflow Switch and RA and SA Smoke Detectors	
Column 10	Indoor Fan Options	1 = Direct Drive - EcoBlue - Standard Static	
		2 = Direct Drive - EcoBlue - Medium Static	
		3 = Direct Drive - EcoBlue - High Static	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
S = Cu/Cu - Cu/Cu - Louvered Hail Guard			

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		50GCQ 4-7 Model Line Numbering	TABLE 1.4
Model Line: 50GCQ 3 ton to 6 ton			
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		2 = RTU Open Multi-Protocol Controller	
		3 = SystemVu Controls	
		6 = Electromechanical Controls (Used with W7220)	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Unpowered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, Unpowered Convenience Outlet	
		5 = Hinged Panels, Powered Convenience Outlet	
		6 = MERV 8 Filters	
		C = Foil Faced Insulation	
Column 17	Electrical Options	A = None	
		C = Non-fused disconnect	
		D = Thru-the -base Connections	
		E = HACR and thru-the -case connections	
		F = Non-fused Disconnect & thru-the base	
		N = Phase Monitor Protection	
		P = Phase Monitor Protection	
		Q = Phase Monitor and NFD	
		R = Phase Monitor and TTB	
		S = Phase Monitor and HACR and TTB	
T = Phase Monitor and NFD and TTB			
Column 18	Packaging	0 = Standard	
		1 = LTL	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48GC 4-6 Model Line Numbering	TABLE 1.5
Model Line: 48GC 3 ton to 6 ton			
Columns 1&2	Product type	48 = Gas heat package (rooftop)	
Columns 3&4	Model series	GC = 16.1 SEER Efficiency	
Column 5	Heat Size	D = Low Gas Heat	
		E = Medium Gas Heat	
		F = High Gas Heat	
		G = Ultra Low Nox, Low Heat	
		L = Low No _x - Low Gas Heat	
		S = Low Heat w/Stainless Steel Exchanger	
		R = Med Heat w/Stainless Steel Exchanger	
		T = High Heat w/Stainless Steel Exchanger (Low No _x models include Stainless Steel HX)	
Column 6	Refrigerant System Options	M = Single Circuit, Two Stage Cooling	
		N=Single Circuit, Two Stage Cooling w/Humidi-MiZer	
		P = Two Stage Cooling with Low Ambient control	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
		J = Condensate Overflow Switch	
		K = Condensate Overflow Switch and RA Smoke Detector	
		L = Condensate Overflow Switch and RA and SA Smoke Detectors	
		M = Condensate Overflow Switch and SA Smoke Detector	
Column 10	Indoor Fan Options	1 = Direct Drive - EcoBlue - Standard Static	
		2 = Direct Drive - EcoBlue - Medium Static	
		3 = Direct Drive - EcoBlue - High Static	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48GC 4-6 Model Line Numbering	TABLE 1.5
Model Line: 48GC 3 ton to 6 ton			
Column 11	Coil Options	N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		2 = RTU Open Multi-Protocol Controller	
		3 = SystemVu Controls	
		6 = Electromechanical Controls (Used with W7220)	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Unpowered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, Unpowered Convenience Outlet	
		5 = Hinged Panels, Powered Convenience Outlet	
		6 = MERV 8 Filters	
		C = Foil Faced Insulation	
Column 17	Electrical Options	A = None	
		B = HACR Breaker	
		C = Non-fused disconnect	
		D = Thru-the -base Connections	
		F = Non-fused Disconnect & thru-the base	
		N = Phase Monitor Protection	
		P = Phase Monitor and HACR	
		Q = Phase Monitor and NFD	
		R = Phase Monitor and TTb	
		S = Phase Monitor and HACR and TTb	
T = Phase Monitor and NFD and TTb			
Column 18	Packaging	0 = Standard	

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**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



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Manufacturer: Carrier Corporation		48FC 4-7 Model Line Numbering	TABLE 1.6
Model Line: 48FC 3 ton to 6 ton			
Columns 1&2	Product type	48 = Gas heat package (rooftop)	
Columns 3&4	Model series	FC = 14.0 SEER Standard Efficiency, Size 04-06, 15.0 IEER Standard Efficiency, Size 07	
Column 5	Heat Size ULN "G"	D = Low Gas Heat	
		E = Medium Gas Heat	
		F = High Gas Heat	
		G = Ultra Low Nox, Low Heat	
		L = Low No _x - Low Gas Heat	
		S = Low Heat w/Stainless Steel Exchanger	
		R = Med Heat w/Stainless Steel Exchanger	
		T = High Heat w/Stainless Steel Exchanger (Low No _x models include Stainless Steel HX)	
Column 6	Refrigerant System Options	A = Single One Stage Cooling Models	
		B = Single One Stage Cooling Models w/Humidi-MiZer	
		M = Single Circuit, Two Stage Cooling	
		N=Single Circuit, Two Stage Cooling w/Humidi-MiZer	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
		07 = 6 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
		J = Condensate Overflow Switch	
		K = Condensate Overflow Switch and RA Smoke Detector	
		L = Condensate Overflow Switch and RA and SA Smoke Detectors	
M = Condensate Overflow Switch and SA Smoke Detector			
Column 10	Indoor Fan Options	1 = Direct Drive - EcoBlue - Standard Static	
		2 = Direct Drive - EcoBlue - Medium Static	
		3 = Direct Drive - EcoBlue - High Static	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	

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**SPECIAL SEISMIC CERTIFICATION
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2000971-CR-001-R2

Manufacturer: Carrier Corporation		48FC 4-7 Model Line Numbering	TABLE 1.6
Model Line: 48FC 3 ton to 6 ton			
Column 11	Coil Options	F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		2 = RTU Open Multi-Protocol Controller	
		3 = SystemVu Controls	
		6 = Electromechanical Controls (Used with W7220)	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = Two position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Unpowered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, Unpowered Convenience Outlet	
		5 = Hinged Panels, Powered Convenience Outlet	
Column 17	Electrical Options	A = None	
		C = Non-fused disconnect	
		D = Thru-the -base Connections	
		F = Non-fused Disconnect & thru-the base	
Column 18	Packaging	0 = Standard	
		1 = LTL	

**SPECIAL SEISMIC CERTIFICATION
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Manufacturer: Carrier Corporation		50TCQ 4-14 Model Line Numbering	TABLE 1.7
Model Line: 50TCQ 3 ton to 12.5 ton			
Columns 1&2	Unit Heat t\Type	50 = Electric Heat Package Rooftop	
Columns 3&4	Model series	TC = Standard Efficiency	
Column 5	Heat Options	Q = Heat Pump	
Column 6	Ref. System Options	A = 1-stage cooling model D = 2-Stage cooling model	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
		07 = 6 ton	
		08 = 7.5 ton	
		09 = 8.5 ton	
		12 = 10 ton 14 = 12.5 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options	0 = Electric drive X13 Motor (04-06)	
		1 = Standard Static Option - Belt Drive	
		2 = Medium Static Option - Belt Drive	
		3 = High Static Option - Belt Drive	
		C = High Static Option w/High Efficiency Motor - Belt Drive (size 14 only)	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
S = Cu/Cu - Cu/Cu - Louvered Hail Guard			
Column 12	Voltage	± = 575/3/60	

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Manufacturer: Carrier Corporation		50TCQ 17-24 Model Line Numbering	TABLE 1.8
Model Line: 50TCQ 15 ton to 20 ton			
Columns 1&2	Unit Heat t\Type	50 = Electric Heat Package Rooftop	
Columns 3&4	Model series	TC = Standard Efficiency	
Column 5	Heat Options	Q = Heat Pump	
Column 6	Ref. System Options	D = 2-Stage cooling compressor models	
Columns 7&8	Cooling Tons	17 = 15 ton	
		24 = 20 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options	1 = Standard Static Option, Vertical	
		2 = Medium Static Option, Vertical	
		3 = High Static Option, Vertical	
		B = Medium Static, High Eff Motor, Vertical	
		C = High Static, High Eff Motor, Vertical	
		5 = Standard Static Option, Horizontal	
		6 = Medium Static Option, Horizontal	
		7 = High Static Option, Horizontal	
		F = Medium Static, High Eff Motor, Horizontal	
G = High Static, High Eff Motor, Horizontal			
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		5 = 208-230/3/60	
		6 = 460/3/60	

**SPECIAL SEISMIC CERTIFICATION
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Manufacturer: Carrier Corporation		50HCQ 4-12 Model Line Numbering	TABLE 1.9
Model Line: 50HCQ 3 ton to 10 ton			
Columns 1-4	Series	50HC = Packaged Rooftop - High Efficiency	
Column 5	Model series	Q = Heat Pump	
Column 6	Refrigerant System Options	A = One Stage Cooling Models	
		D = Two Stage Cooling Models	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
		07 = 6 ton	
		08 = 7.5 ton	
		09 = 8.5 ton	
Column 9	Sensor Options	12 = 10 ton	
		A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options	H = RA + SA Smoke Detector + CO ₂	
		0 = Electric Drive X13 Motor (04-06)	
		1 = Standard Static Option - Belt Drive	
		2 = Medium Static Option - Belt Drive	
		3 = High Static Option - Belt Drive	
Column 11	Coil Options - Round Tube/Plate Fin Condenser Coil	C = High Static Option with High Efficiency Motor - Belt Drive (size 12 only)	
		A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
Column 12	Voltage	S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
		1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	

**SPECIAL SEISMIC CERTIFICATION
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Manufacturer: Carrier Corporation		50HCQ 4-12 Model Line Numbering	TABLE 1.9
Model Line: 50HCQ 3 ton to 10 ton			
Column 12 cont.	Voltage	6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		1 = PremierLink Controller	
		2 = RTU Open Multi-Protocol Controller	
		6 = Electromechanical Controls (Used with W7220)	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = 2 position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Un-Powered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, un-powered C.O.	
		5 = Hinged Panels, powered C.O.	
Column 17	Electrical Options	A = None	
		C = Non-fused disconnect	
		D = Thru-the Base Connections	
		F = Non-Fused Disconnect and Thru-the-Base Connections	
		G = 2-speed indoor fan (VFD) controller	
		J = 2-speed contriller (VFD) & non -fused disconnect	
		K = 2-speed Indoor Fan Controller (VFD) & Thru-the_Base Connections	
		M = 2-speed Indoor Fan Controller (VFD) with Non-Fused disc. & thru-the-base	
Column 18	Packaging	0 = Standard	
		1 = LTL	

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Manufacturer: Carrier Corporation		50HC 4-14 Model Line Numbering	TABLE 1.10
Model Line: 50HC 3 ton to 12.5 ton			
Columns 1&2	Product type	50 = Electric heat package (rooftop)	
Columns 3&4	Model series	HC = High efficiency	
Column 5	Electric Heater Option	- = Standard (No Electric Heat)	
		A = Low Electric Heat	
		B = Medium Electric Heat	
		C = High Electric Heat	
Column 6	Refrigerant System Options	A = Single stage cooling models	
		B = Single stage cooling w/Humidi-MiZer	
		D = 2 stage cooling	
		E = 2 stage cooling w/Humidi-MiZer	
		F = Single stage cooling w/MotorMaster low amb cntl	
		G = 2 stage cooling w/MotorMaster low amb cntl	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
		07 = 6 ton	
		08 = 7.5 ton	
		09 = 8.5 ton	
		11 = 10 ton (12.0 EER)	
		12 = 10 ton (11.7 EER)	
		14 = 12.5 ton	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options 3, 4, 5 ton models only	0 = Electric (Direct) Drive x13 motor	
		2 = Medium Static Option - Belt Drive	
		3 = High Static Option - Belt Drive	
	Indoor Fan Options 6 - 12.5 Ton Models Only	1 = Standard Static Option - Belt Drive	
		2 = Medium Static Option - Belt Drive	
		3 = High Static Option - Belt Drive	
		C = High Static Option w/High Eff Motor - Belt Drive	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	

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Manufacturer: Carrier Corporation		50HC 4-14 Model Line Numbering	TABLE 1.10
Model Line: 50HC 3 ton to 12.5 ton			
Column 11	Coil Options	D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		1 = PremierLink Controller	
		2 = RTU Open Multi-Protocol Controller	
		6 = Electromechanical Controls (Used with W7220)	
		D = ComfortLink Controls	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = 2 position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Un-Powered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, un-powered C.O.	
		5 = Hinged Panels, powered C.O.	
		C = Foil faced insulation	
Column 17	Electrical Options	A = None	
		B = HACR breaker	
		C = Non-fused disconnect	
		D = Thru-the -base Connections	
		F = Non-fused Disconnect & thru-the base	
		G = 2-speed indoor fan (VFD) controller	
		J = 2-speed contriller (VFD) & non -fused disconnect	

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Manufacturer: Carrier Corporation		50HC 17-28 Model Line Numbering	TABLE 1.11
Model Line: 50HC 15 ton to 25 ton			
Columns 1&2	Product type	50 = Electric heat package (rooftop)	
Columns 3&4	Model series	HC = High efficiency	
Column 5	Electric Heater Option	- = Standard (No Electric Heat)	
		A = Low Electric Heat	
		B = Medium Electric Heat	
		C = High Electric Heat	
Column 6	Refrigerant System Options	D = 2 stage cooling w/RTPF	
		E = 2 stage cooling w/Humidi-MiZer	
		G = 2 stage cooling w/MotorMaster low amb cntl	
Columns 7&8	Cooling Tons	17 = 15 tons	
		20 = 17.5 tons	
		24 = 10 tons	
		28 = 25 tons	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options & Air Flow Configuration	1 = Standard Static/Vertical Supply, Return Air Flow	
		2 = Medium Static/Vertical Supply, Return Air Flow	
		3 = High Static/ Vertical Supply, Return Air Flow	
		B = Med Static High Eff Motor / Vert Supply, Return Air Flow	
		C = High Static High Eff Motor / Vert Supply, Return Air Flow	
		5 = Standard Static/Horizontal Supply, Return Air Flow	
		6 = Medium Static/Horizontal Supply, Return Air Flow	
		7 = High Static/ Horizontal Supply, Return Air Flow	
		F = Med Static High Eff Motor / Horizontal Supply, Return Air Flow	
		G = High Static High Eff Motor / Horiz Supply, Return Air Flow	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	

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Manufacturer: Carrier Corporation		50HC 17-28 Model Line Numbering	TABLE 1.11
Model Line: 50HC 15 ton to 25 ton			
Column 11 cont.	Coil Options	P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		1 = PremierLink Controller	
		2 = RTU Open Multi-Protocol Controller	
		6 = Electromechanical Controls (Used with W7220)	
		D = ComfortLink Controls	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = 2 position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		V = Temp Ultra Low Leak Econo w/Baro Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
		X = Enthalpy Ultra Low Leak Econo w/PE(cent) Vert.	
Column 16	Service Options	0 = None	
		1 = Un-Powered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, un-powered C.O.	
		5 = Hinged Panels, powered C.O.	
		C = Foil faced insulation	
Column 17	Electrical Options	A = None	
		B = HACR breaker	
		C = Non-fused disconnect	
		G = 2-speed indoor fan (VFD) controller	
		J = 2-speed contriller (VFD) & non -fused disconnect	
Column 18	Packaging	0 = Standard	

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Manufacturer: Carrier Corporation		48HC 4-14 Model Line Numbering	TABLE 1.12
Model Line: 48HC 3 ton to 12.5 ton			
Columns 1&2	Product type	48 = Gas heat package (rooftop)	
Columns 3&4	Model series	HC = High efficiency	
Column 5	Heat Size	D = Low Gas Heat	
		E = Medium Gas Heat	
		F = High Gas Heat	
		L = Low No _x - Low Gas Heat	
		M = Low No _x - Med Gas Heat	
		N = Low No _x - High Gas Heat	
		S = Low Heat w/Stainless Steel Exchanger	
		T = High Heat w/Stainless Steel Exchanger	
Column 6	Refrigerant System Options	A = Single stage cooling models	
		B = Single stage cooling w/Humidi-MiZer	
		D = 2 stage cooling	
		E = 2 stage cooling w/Humidi-MiZer	
		F = Single stage cooling w/MotorMaster low amb cntl	
		G = 2 stage cooling w/MotorMaster low amb cntl	
Columns 7&8	Cooling Tons	04 = 3 ton	
		05 = 4 ton	
		06 = 5 ton	
		07 = 6 ton	
		08 = 7.5 ton	
		09 = 8.5 ton	
		11 = 10 ton (12.0 EER)	
		12 = 10 ton (11.5 EER)	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options 3, 4, 5 ton models only	0 = Electric (Direct) Drive x13 motor	
		2 = Medium Static Option - Belt Drive	
		3 = High Static Option - Belt Drive	

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Manufacturer: Carrier Corporation		48HC 4-14 Model Line Numbering	TABLE 1.12
Model Line: 48HC 3 ton to 12.5 ton			
Column 10 cont.	Indoor Fan Options 6 - 12.5 Ton Models Only	1 = Standard Static Option - Belt Drive	
		2 = Medium Static Option - Belt Drive	
		3 = High Static Option - Belt Drive	
		C = High Static Option w/High Eff Motor - Belt Drive	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	
		F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
R = Cu/Cu - Al/Cu - Louvered Hail Guard			
Column 12	Voltage	1 = 575/3/60	
		3 = 208-230/1/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		1 = PremierLink Controller	
		2 = RTU Open Multi-Protocol Controller	
		6 = Electromechanical Controls (Used with W7220)	
		D = ComfortLink Controls	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = 2 position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
Column 16	Service Options	0 = None	
		1 = Un-Powered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, un-powered C.O.	
		5 = Hinged Panels, powered C.O.	
		C = Foil faced insulation	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48 HC 17-28 Model Line Numbering	TABLE 1.13
Model Line: 48HC 15 ton to 25 ton			
Columns 1&2	Product type	48 = Gas heat package (rooftop)	
Columns 3&4	Model series	HC = High efficiency	
Column 5	Heat Size	D = Low Gas Heat	
		E = Medium Gas Heat	
		F = High Gas Heat	
		S = Low Heat w/Stainless Steel Exchanger	
		R = Med Heat w/Stainless Steel Exchanger	
		T = High Heat w/Stainless Steel Exchanger	
Column 6	Refrigerant System Options	D = 2 stage cooling	
		E = 2 stage cooling w/Humidi MiZer	
		G = 2 stage cooling w/MotorMaster low amb cntl	
Columns 7&8	Nominal Cooling Capacity (Tons)	17 = 15 tons	
		20 = 17.5 tons	
		24 = 20 tons	
		28 = 25 tons	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options & Air Folw Configuration	1 = Standard Static/Vertical Supply, Return Air Flow	
		2 = Medium Static/Vertical Supply, Return Air Flow	
		3 = High Static/ Vertical Supply, Return Air Flow	
		B = Med Static High Eff Motor / Vert Supply, Return Air Flow	
		C = High Static High Eff Motor / Vert Supply, Return Air Flow	
		2 = Medium Static Option - Belt Drive	
		5 = Standard Static/Horizontal Supply, Return Air Flow	
		6 = Medium Static/Horizontal Supply, Return Air Flow	
		7 = High Static/ Horizontal Supply, Return Air Flow	
		F = Med Static High Eff Motor / Horizontal Supply, Return Air Flow	
		G = High Static High Eff Motor / Horiz Supply, Return Air Flow	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48 HC 17-28 Model Line Numbering	TABLE 1.13
Model Line: 48HC 15 ton to 25 ton			
Column 11 cont.	Coil Options	F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		1 = PremierLink Controller	
		2 = RTU Open Multi-Protocol Controller	
		6 = Electromechanical Controls (Used with W7220)	
		D = ComfortLink Controls	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = 2 position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		V = Temp Ultra Low Leak Economizer w/Power Exhaust & Bar. Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
		X = Enthalpy Ultra Low Leak Econ w/P (cent) - Vertical Air Only	
Column 16	Service Options	0 = None	
		1 = Un-Powered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, un-powered C.O.	
		5 = Hinged Panels, powered C.O.	
		C = Foil faced insulation	
Column 17	Electrical Options	A = None	
		B = HACR breaker	
		C = Non-fused disconnect	
		G = 2-speed indoor fan (VFD) controller	
		J = 2-speed contriller (VFD) & non -fused disconnect	
Column 18	Packaging	0 = Standard	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48 HC 17-28 Model Line Numbering	TABLE 1.14
Model Line: 48FCG 15 ton to 25 ton			
Columns 1&2	Product type	48 = Gas heat package (rooftop)	
Columns 3&4	Model series	HC = High efficiency	
Column 5	Heat Size	D = Low Gas Heat	
		E = Medium Gas Heat	
		F = High Gas Heat	
		S = Low Heat w/Stainless Steel Exchanger	
		R = Med Heat w/Stainless Steel Exchanger	
		T = High Heat w/Stainless Steel Exchanger	
Column 6	Refrigerant System Options	D = 2 stage cooling	
		E = 2 stage cooling w/Humidi MiZer	
		G = 2 stage cooling w/MotorMaster low amb cntl	
Columns 7&8	Nominal Cooling Capacity (Tons)	17 = 15 tons	
		20 = 17.5 tons	
		24 = 20 tons	
		28 = 25 tons	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options & Air Folw Configuration	1 = Standard Static/Vertical Supply, Return Air Flow	
		2 = Medium Static/Vertical Supply, Return Air Flow	
		3 = High Static/ Vertical Supply, Return Air Flow	
		B = Med Static High Eff Motor / Vert Supply, Return Air Flow	
		C = High Static High Eff Motor / Vert Supply, Return Air Flow	
		2 = Medium Static Option - Belt Drive	
		5 = Standard Static/Horizontal Supply, Return Air Flow	
		6 = Medium Static/Horizontal Supply, Return Air Flow	
		7 = High Static/ Horizontal Supply, Return Air Flow	
		F = Med Static High Eff Motor / Horizontal Supply, Return Air Flow	
		G = High Static High Eff Motor / Horiz Supply, Return Air Flow	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48 HC 17-28 Model Line Numbering	TABLE 1.14
Model Line: 48FCG 15 ton to 25 ton			
Column 11 cont.	Coil Options	F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		1 = PremierLink Controller	
		2 = RTU Open Multi-Protocol Controller	
		6 = Electromechanical Controls (Used with W7220)	
		D = ComfortLink Controls	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = 2 position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		V = Temp Ultra Low Leak Economizer w/Power Exhaust & Bar. Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
		X = Enthalpy Ultra Low Leak Econ w/P (cent) - Vertical Air Only	
Column 16	Service Options	0 = None	
		1 = Un-Powered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, un-powered C.O.	
		5 = Hinged Panels, powered C.O.	
		C = Foil faced insulation	
Column 17	Electrical Options	A = None	
		B = HACR breaker	
		C = Non-fused disconnect	
		G = 2-speed indoor fan (VFD) controller	
		J = 2-speed contriller (VFD) & non -fused disconnect	
Column 18	Packaging	0 = Standard	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48 HC 17-28 Model Line Numbering	TABLE 1.15
Model Line: 48GCG 15 ton to 25 ton			
Columns 1&2	Product type	48 = Gas heat package (rooftop)	
Columns 3&4	Model series	HC = High efficiency	
Column 5	Heat Size	D = Low Gas Heat	
		E = Medium Gas Heat	
		F = High Gas Heat	
		S = Low Heat w/Stainless Steel Exchanger	
		R = Med Heat w/Stainless Steel Exchanger	
		T = High Heat w/Stainless Steel Exchanger	
Column 6	Refrigerant System Options	D = 2 stage cooling	
		E = 2 stage cooling w/Humidi MiZer	
		G = 2 stage cooling w/MotorMaster low amb cntl	
Columns 7&8	Nominal Cooling Capacity (Tons)	17 = 15 tons	
		20 = 17.5 tons	
		24 = 20 tons	
		28 = 25 tons	
Column 9	Sensor Options	A = None	
		B = RA Smoke Detector	
		C = SA Smoke Detector	
		D = RA + SA Smoke Detector	
		E = CO ₂ Sensor	
		F = RA Smoke Detector + CO ₂	
		G = SA Smoke Detector + CO ₂	
		H = RA + SA Smoke Detector + CO ₂	
Column 10	Indoor Fan Options & Air Folw Configuration	1 = Standard Static/Vertical Supply, Return Air Flow	
		2 = Medium Static/Vertical Supply, Return Air Flow	
		3 = High Static/ Vertical Supply, Return Air Flow	
		B = Med Static High Eff Motor / Vert Supply, Return Air Flow	
		C = High Static High Eff Motor / Vert Supply, Return Air Flow	
		2 = Medium Static Option - Belt Drive	
		5 = Standard Static/Horizontal Supply, Return Air Flow	
		6 = Medium Static/Horizontal Supply, Return Air Flow	
		7 = High Static/ Horizontal Supply, Return Air Flow	
		F = Med Static High Eff Motor / Horizontal Supply, Return Air Flow	
		G = High Static High Eff Motor / Horiz Supply, Return Air Flow	
Column 11	Coil Options	A = Al/Cu - Al/Cu	
		B = Pre-coat Al/Cu - Al/Cu	
		C = E-coat Al/Cu - Al/Cu	
		D = E-coat Al/Cu - E-coat Al/Cu	
		E = Cu/Cu - Al/Cu	

**SPECIAL SEISMIC CERTIFICATION
MODEL LINE NUMBERING - REFERENCE ONLY**



2000971-CR-001-R2

Manufacturer: Carrier Corporation		48 HC 17-28 Model Line Numbering	TABLE 1.15
Model Line: 48GCG 15 ton to 25 ton			
Column 11 cont.	Coil Options	F = Cu/Cu - Cu/Cu	
		M = Al/Cu - Al/Cu - Louvered hail guard	
		N = Pre-Coat Al/Cu - Al/Cu - Louvered Hail Guard	
		P = E-Coat Al/Cu - Al/Cu Louvered Hail Guard	
		Q = E-Coat Al/Cu - E-Coat Al/Cu - Louvered Hail Guard	
		R = Cu/Cu - Al/Cu - Louvered Hail Guard	
		S = Cu/Cu - Cu/Cu - Louvered Hail Guard	
Column 12	Voltage	1 = 575/3/60	
		5 = 208-230/3/60	
		6 = 460/3/60	
Column 13	Design revision	- = Factory Design Revision	
Column 14	Base Unit Controls	0 = Electromechanical controls (Used with W7212)	
		1 = PremierLink Controller	
		2 = RTU Open Multi-Protocol Controller	
		6 = Electromechanical Controls (Used with W7220)	
		D = ComfortLink Controls	
Column 15	Intake/Exhaust Options	A = None	
		B = Temperature Economizer w/Barometric Relief	
		F = Enthalpy Economizer w/Barometric Relief	
		K = 2 position Damper	
		U = Temp Ultra Low Leak Economizer w/Barometric Relief	
		V = Temp Ultra Low Leak Economizer w/Power Exhaust & Bar. Relief	
		W = Enthalpy Ultra Low Leak Econo w/Barometric Relief	
		X = Enthalpy Ultra Low Leak Econ w/P (cent) - Vertical Air Only	
Column 16	Service Options	0 = None	
		1 = Un-Powered Convenience Outlet	
		2 = Powered Convenience Outlet	
		3 = Hinged Panels	
		4 = Hinged Panels, un-powered C.O.	
		5 = Hinged Panels, powered C.O.	
		C = Foil faced insulation	
Column 17	Electrical Options	A = None	
		B = HACR breaker	
		C = Non-fused disconnect	
		G = 2-speed indoor fan (VFD) controller	
		J = 2-speed contriller (VFD) & non -fused disconnect	
Column 18	Packaging	0 = Standard	

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		Table Description: Compressors			TABLE 2	
Building Code: CBC 2019		Seismic Certification Limits:			$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Scroll Compressor	Copeland	ZP31K6E-PFV-130	1-Stage, 3.99 hp	208-230-Single Phase	Extrap.	
		...	...	...	Extrap.
		ZP51K6E-PFV-130	1-Stage, 6.42 hp	208-230 Single Phase	Extrap.	
		ZPS30K6E-PFV-130	2-Stage, 3.86 hp	208-230 Single Phase	Extrap.	
		...	...	...	Extrap.
		ZPS49K5E-PFV-130	2-Stage, 6.15 hp	208-230 Single Phase	Extrap.	
		ZP31K6E-TF5-130	1-Stage, 3.98 hp	208-230-3 Phase	Extrap.	
		ZP42K6E-TF5-130	1-Stage, 5.40 hp	208-230-3 Phase	5	
		ZP51K6E-TF5-130	1-Stage, 6.43 hp	208-230-3 Phase	Interp.	
		ZPS60K5E-TF5-130	2-Stage, 7.59 hp	208-230-3 Phase	10	
		...	...	...	Interp.
		ZPS30K5E-TF5-130	2-Stage, 4.02 hp	208-230-3 Phase	8	
		...	...	...	Interp.
		ZPS49K5E-TFD-130	2-Stage, 6.15 hp	460V-3 Phase	7, 11	
		ZPS30K5E-TFD-130	2-Stage, 4.02 hp	460V- 3 Phase	9	
		...	...	...	Interp.
ZPS60K5E-TFD-130	2-Stage, 7.63 hp	460V- 3 Phase	6			
Compressor	Emerson Climate Technologies	ZP31K5E	3 tons		Extrap.	
		ZPXXXXX	...		Extrap.	
		ZP49K5E	5 - 10 tons		3	
		ZP51K5E	10 tons		Interp.	
		ZP54K5E	5 - 10 tons		4	
		ZPXXXXX	...		Interp.	

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		Table Description: Heat cell		TABLE 3	
Building Code: CBC 2019		Seismic Certification Limits:			
		$S_{DS} = 2.0 g \quad z/h = 1.0$ $S_{DS} = 2.5 g \quad z/h = 0.0$		$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Electric Heat (Single Stage)	Backer	CRHEATER323A00	15.0 Mbtuh, 208-230V		Extrap.
		...	...		Extrap.
		CRHEATER328A00	64.6 Mbtuh, 208-230V		Extrap.
		CRHEATER333A00	20.5 Mbtuh, 460V		Extrap.
		...	...		Extrap.
Electric Heat (Two Stage)	Backer	CRHEATER336A00	47.8 Mbtuh, 460V		9
		CRHEATER337A00	73.4 Mbtuh, 460V		65
		...	...		Interp.
		CRHEATER338A00	81.9 Mbtuh, 460V		Interp.
		CRHEATER327A00	44.4 Mbtuh, 208-230V		Interp.
		...	...		Interp.
Gas Heat	Carrier	48TC002689	53 Mbtuh, SS, 208-230V-1P		Interp.
		...	...		Interp.
		48TC002701	106 Mbtuh, SS, 208-230V-1P		Interp.
		48TC002690	54 Mbtuh, SS, 208-230V-3P		Interp.
		...	...		Extrap.
		48TC002702	120Mbtuh, SS, 208-230V-3P		Extrap.
		48TC002691	54 Mbtuh, SS, 460V-3P		Extrap.
		...	...		Extrap.
		48TC002703	120Mbtuh, SS, 460V-3P		Interp.
		48TC003553	54 Mbtuh, SS (Low NO _x), 208-230V-1P		Interp.
48TC003554	54 Mbtuh, SS (Low NO _x), 208-230V-3P		5, 8		

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		Table Description: Heat cell		TABLE 3	
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Gas Heat	Carrier	48TC003555	54 Mbtuh, SS (Low NO _x), 460V-3P		7
		48TC002681	53 Mbtuh, Aluminum, 208-230V-1P		Interp.
		...	...		Interp.
		48TC002697	106 Mbtuh, Aluminum, 208-230V-1P		Interp.
		48TC002682	54 Mbtuh, Aluminum, 208-230V-3P		Interp.
		...	...		Interp.
		48TC002698	120 Mbtuh, Aluminum, 208-230V-3P		Interp.
		48TC002683	54 Mbtuh, Aluminum, 460V-3P		Interp.
		...	...		Interp.
Single Phase Gas Heat	Carrier	48TC002699	120 Mbtuh, Aluminum, 460V-3P		6
		48TM400789	65 MBtuh, Al		Extrap.
		48TM400XXX	...		Extrap.
Three Phase Gas Heat	Carrier	48TM400791	130 MBtuh, Al		Extrap.
		48TM40XXXX	...		Extrap.
		48TM402783	72 MBtuh, Al		3
		48TM40XXXX	...		Interp.
		50TM40XXXX	...		Interp.
		50HE400811	220 MBtuh, Al, vertical		Interp.
		50HE401229	220 MBtuh, Al, horizontal		Interp.
		50HE400805	310 MBtuh, Al, vertical		Interp.
50HE401223	310 MBtuh, Al, horizontal		Interp.		
		50HE400799	400 MBtuh, Al, vertical/horizontal		1,2

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer:	Carrier Corporation	Table Description: Coils	TABLE 4
Model Line:	48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		

Building Code: CBC 2019	Seismic Certification Limits:	$S_{DS} = 2.0 g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 2.5 g$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Condenser Coils	Carrier	Custom Size Coils	Al/Cu, 5/16" RTPF, 1 Rows, 18 FPI, 11.70 TFA(ft ²)		Extrap.
			Al/Cu, 5/16" RTPF, 2 Rows, 18 FPI, 15.90 TFA(ft ²)		5
			...		Interp.
			Al/Cu, 5/16" RTPF, 2 Rows, 18 FPI, 14.60 TFA(ft ²)		9
			...		Interp.
			Al/Cu, 5/16" RTPF, 2 Rows, 18 FPI, 20.50 TFA(ft ²)		11
			Cu/Cu, 5/16" RTPF, 1 Rows, 18 FPI, 11.70 TFA(ft ²)		Interp.
			...		Interp.
			Cu/Cu, 5/16" RTPF, 2 Rows, 18 FPI, 11.70 TFA(ft ²)		8
			...		Interp.
			Cu/Cu, 5/16" RTPF, 2 Rows, 18 FPI, 15.00 TFA(ft ²)		6
			...		Interp.
			Cu/Cu, 5/16" RTPF, 2 Rows, 18 FPI, 20.50 TFA(ft ²)		7, 10
			Al/Cu; 2 rows; 10.7 TFA(ft ²)		Interp.
			...		Interp.
Al/Cu; 2 rows; 21.3 TFA(ft ²)		3			
...		Interp.			
Al/Cu; 2 rows; 46.2 TFA(ft ²)		Interp.			
Al/Cu; 2 row; 19.5 Sq. Ft. ; 2 row 22 TFA(ft ²)		Interp.			
Al/Cu; (2) @ 2 rows; 21.4 TFA(ft ²) each		Interp.			
Al/Cu; (2) @ 2 rows; 23.1 TFA(ft ²) each		4			

Notes:
RTPF= Round Tube Plate Fin, FPI = Fins Per Inch, TFA = Total Face Area

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer:	Carrier Corporation	Table Description: Coils	TABLE 4
Model Line:	48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		

Building Code: CBC 2019	Seismic Certification Limits:	$S_{DS} = 2.0 g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 2.5 g$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Condenser Coils	Carrier	Custom Size Coils	...		Interp.
			Al/Cu; (2) @ 2 rows; 34.3 TFA(ft ²) each		1,2
Evaporator Coils	Carrier	Custom Size Coils	Al/Cu, 3/8" RTPF, 2 Rows, 15 FPI, 5.5 TFA(ft ²)		Extrap.
			Al/Cu, 3/8" RTPF, 3 Rows, 15 FPI, 5.5 TFA(ft ²)		5
			...		Interp.
			Al/Cu, 3/8" RTPF, 4 Rows, 15 FPI, 7.33 TFA(ft ²)		11
			Cu/Cu, 3/8" RTPF, 2 Rows, 15 FPI, 5.50 TFA(ft ²)		Interp.
			...		TBD
			Cu/Cu, 3/8" RTPF, 2 Rows, 15 FPI, 5.50 TFA(ft ²)		8
			...		Interp.
			Cu/Cu, 3/8" RTPF, 3 Rows, 15 FPI, 5.50 TFA(ft ²)		9
			...		Interp.
			Cu/Cu, 3/8" RTPF, 4 Rows, 15 FPI, 7.33 TFA(ft ²)		3,6,7,10
			...		Interp.
		Al fins/Cu tubes; 3 rows; 17.3 TFA(ft ²)		4	
		...		Interp.	
		Al fins/Cu tubes; 4 rows; 26.0 TFA(ft ²)		1,2	

Notes:
RTPF= Round Tube Plate Fin, FPI = Fins Per Inch, TFA = Total Face Area

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation	Table Description: Refrigerant Expansion Device & Valves	TABLE 5
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		

Building Code: CBC 2019	Seismic Certification Limits:	$S_{DS} = 2.0 g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 2.5 g$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Refrigerant Expansion Device (Indoor)	Sporlan Division - Parker Hannifin	BBIZE-#-GA-B#	...		Extrap.
		BBIZE-2-GA-B5	Indoor type TXV - 2 tons nominal		5
		BBIZE-#-GA-B#	...		Interp.
		BBIZE-4-GA-B5	Indoor type TXV - 4 tons nominal	UUT: Qty (1)	3
		BBIZE-#-GA-B#	...		Interp.
		BBIZE-5-GA-B5	Indoor type TXV - 5 tons nominal	UUT: Qty (2)	4
		BBIZE-#-GA-B#	...		Interp.
		BBIZE-6-GA-B5	Indoor type TXV - 6 tons nominal		6
		BBIZE-#-GA-B#	...		Interp.
		BBIZE-15-GA-B5	Indoor type TXV - 15 tons nominal	UUTs: Qty (2)	1,2
Thermal Expansion Valve	Sporlan/Parker	HXE-3-KX-10	elememt bulb, Orifice size .157		9
		HXE-5-KX-10	elememt bulb, Orifice size .157		10
	Danfoss	Danfoss-068L1263			7
Refrigerant Expansion Device (Outdoor)	Weiss Precision Stamping	Acutrol # ton	...	See note below	Extrap.
		Acutrol 10 ton	Outdoor type Acutrol - 10 tons nominal	UUT: Qty (2)	4
		Acutrol 12.5 ton	...	See note below	Extrap.
		Acutrol 15 ton	Outdoor type Acutrol - 15 tons nominal	See note below	Extrap.
		Acutrol 20 ton	Outdoor type Acutrol - 20 tons nominal	See note below	Extrap.
Reversing Valve	Ranco, Inc.	V10-414101-2CA	10 tons nominal		Extrap.
		V6-41408A-1CA	10 tons nominal	UUT: Qty (2)	4

Note: Accutrol is a set of two punched cups in a 3/8" tube that allow for metering flow. The cups are the same size regardless of tonnage. The only difference between tonnages is the hole size in the cup (which varies from 0.028" to ~0.042" in diameter) and the number of sets of cups.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		Table Description: Refrigerant Expansion Device & Valves		TABLE 5	
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
				$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Solenoid Valve	Sporlan/Parker	EF23VS182	1/2" ODF Inlet x 1/2" ODF Outlet; 6/32" standard port size		Extrap.
		EF23VS186	1/2" ODF Inlet x 1/2" ODF Outlet; 9/32" standard port size		5
		EF23VS130	5/8" ODM Inlet x 5/8" ODF Outlet; 7/16" standard port size		6
		EF23VS188	1/2" ODF Inlet x 1/2" ODF Outlet; 7/32" standard port size		8
		EF23VS186	1/2" ODF Inlet x 1/2" ODF Outlet; 9/32" standard port size		7
		EF23VS183	3/8" ODF Inlet x 3/8" ODF Outlet; 9/32" standard port size		5,6,7,8
Reamer Valve	Carrier	99CC405124	Size 0.028		10
		99CC405134	Size 0.028		9
		99CC404944	Size 0.032		10
		99CC404954	Size 0.032		10

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		Table Description: Control Boxes		TABLE 6	
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Control Boxes	Utec	48TCFSRADV-A10	(Autozone/O'Reilly)	used with Venstar-W7220	Extrap.
		48TCFSRADV-A00	(Autozone/O'Reilly)	used with Venstar	Extrap.
		48TCFSRSD7-A01	STD		Extrap.
		48TCFSRSDN-A00	Novar-Ucm		Extrap.
		48TCFSRADR-A00	RTU Open controller		7, 10
		48TCFSRBD--A00	STD		Interp.
	...	...		Interp.	
	48TCFSRBDH-A00	Electromechanical controller	used with W7220	5,8,9	
	48TCFSRBDZ-A00	System Vu Controls		6	
	Carrier	CCX6Y3A2C7T4B4A300	Electromechanical controller		1
CCX5Y7A2D1G0A4A100		RTU Open controller		2	
CCS5Y2A0B4ABA2A000		RTU Open controller		3	
CCL6HAA0A0H0A1A000		Electromechanical controller		4	
DX Controller	Carrier	TCB-IFDA1GUL			64b, 65a
DX-PMV Kit	Carrier	RBM-A0121GUL			64a, 65b
		RBM-A0961GUL			64b, 65a

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer:		Carrier Corporation		Table Description:		Fans and Fan Motors		
Model Line:		48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		TABLE 7				
Building Code:		CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g$ $z/h = 1.0$ $S_{DS} = 2.5g$ $z/h = 0.0$		
						$I_p = 1.5$		
Component Type	Manufacturer	Model	Description	Notes	UUT			
Condenser Fan	A&P	48TC003644	23"ø, Polypropylene, Homopolymer, 30% Fiber Glass Filled, 1.65 lbs.		5,6,7,8,9, 10,11			
	Revcor	22	0.017" thick carbon steel	UUT1: 6 fans; UUT2: 6 fans; UUT3: 1 fan	1,2,3			
	HessAire	30	0.036" thick carbon steel	UUT4: 3 fans	4			
Condenser Fan Motor	Regal-Beloit Co.	5KCP39HGWG04S	1 fan, Direct Drive, 1/4 Hp, 460V		6			
		5KCP39KGGW11S	1 fan, Direct Drive, 1/4 Hp, 208-230V		5			
		...	...		Interp.		
		5KCP39KFWF69S	1 fan, Direct Drive, 1/4 Hp, 208-230V		10			
		5KCP39JFWF61S	1 fan, Direct Drive, 1/5 Hp, 208-230V		8			
		...	...		Interp.		
		5KCP39LGWF92S	1 fan, Direct Drive, 1/4 Hp, 460V		7,11			
		...	...		Interp.		
	Genteq	48Y	5KCP39KFWF71S	1 fan, Direct Drive, 1/4 Hp, 460V		9		
			...	1 fan; 1/8 hp; 208/230-460V		Extrap.		
				Extrap.		
			...	2 fans; 1/4 hp; 208/230-460V	UUT: 208/230V	3		
...			3 fans; 1/4 hp; 208/230-460V	UUT: 460V	4			
...	...		Interp.					
...	...	6 fans; 1/4 hp; 208/230-460V	UUT1: 460V | UUT2: 208/230V	1,2				
Evaporator Fan (Vane Axial)	A&P	48TC001692	16.66"ø, 2.59 lbs.		Extrap.			
		48TC001694	16.66"ø, 2.73 lbs.		Extrap.			
		48TC001693	16.66"ø, 2.97 lbs.		5,6,7,8,9, 10,11			

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		Table Description: Fans and Fan Motors		TABLE 7	
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Direct Drive Evaporator Fan Motor (ECM)	Emb-Papst	M3G084-DF17-U5	Single Phase, 0.44 Bhp, 208-230V		Extrap.
		...	...		Extrap.
		M3G084-FA15-U5	Single Phase, 1.07 Bhp, 208-230V		8
		...	...		Interp.
		M3G084-FA14-V5	Single Phase, 1.07 Bhp, 460V		9
		...	...		Interp.
		M3G112-EA89-F7	Single Phase, 1.96 Bhp, 208-230V		5
		...	...		Interp.
		M3G084-GF01-V9	Three Phase, 1.44 Bhp		7
		...	...		Interp.
		M3G112-EA88-F6	Three Phase, 1.76 Bhp		10
...	...		Interp.		
M3G112-EA90-G5	Three Phase, 2.43 Bhp		6,11		
Belt Drive Centrifugal Evaporator Fan (Vertical)	Morrison Products	10 x 10	Carbon steel fan		3
		15 x 15	Carbon steel fan		1
	Lau, Inc.	15 x 15	Carbon steel fan		1
		18 x 18	Carbon steel fan		4
		15 x 11	Carbon steel fan		2
Evaporator Fan Motors (Single speed - 3 phase)	Marathon Electric	56HY	1.7-3.7 hp; 208/230/460V	UUT: 2.9 hp; 208/230V	3

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ		Table Description: Options/Accessories		TABLE 9	
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
				$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Power Exhaust	Micrometl	50HE400973	Vertical Power Exhaust		1
EconoMiŞer	MicroMetl	50HE402760	Low leak economizer (vertical)		1
		ECE-MRT89CA-2M6	Field installed economizer (horizontal)		2
		PECE-SRT12CA-2M1	Field installed economizer (horizontal)		3
		50TM480945	Low leak economizer (vertical)		4
		ECD-SRT12CA-XXXX	Vertical Economizer		Extrap.
		ECH-SRT12CA-XXXX-X	Horizontal Economizer		Extrap.
		ECH-SRT12CA-D2DH	Horizontal Economizer, JADE, Dry Bulb		5
Vertical Economizer with Power Exhaust	MicroMetl	PEBD-SRT12CA-XXXX-XXX-X	...		Interp.
		PEBD-SRT12CA-D2DH-2AY	JADE, backward inclined (Cyclone), 208/230V		8
		PEBD-SRT12CA-XXXX-XXX	...		Interp.
		PEBD-SRT12CA-D0DB-4AY-4	Belimo, backward inclined (Cyclone), 460V		7
		PECD-SRT12CA-XXXX-XXX-X	...		Interp.
		PECD-SRT12CA-XXXX-XXX	...		Interp.
		PECD-SRT12CA-D2DH-4L1	JADE, w/Power exhaust 460V		6

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000971-CR-001-R2



Manufacturer: Carrier Corporation		Table Description: Options/Accessories			TABLE 9
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ					
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g$ $z/h = 1.0$	$I_p = 1.5$
				$S_{DS} = 2.5g$ $z/h = 0.0$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Horizontal Economizer with Power Exhaust	MicroMetl	PECH-SRT12CA-XXXX-XXX	...		Extrap.
		PECH-SRT12CA-XXXX-XXX-X	...		Extrap.
		PEBH-SRT12CA-D0DB-2AY-4	Belimo Only, backward inclined (Cyclone), 208/230V, 117.5 lbs.		74
		PEBH-SRT12CA-XXXX-XXX-X	...		Interp.
		PEBH-SRT12CA-XXXX-XXX-XXX	...		Interp.
		PEBH-SRT12CA-D2DH-4AY	JADE, backward inclined (Cyclone), 460V, 117.5 lbs.		75
Low Gas Heat	Carrier	50HE401232	Gas Heat		1,2
		48TM402783	LowNox Gas Heat		3
SAV System w/VFD	ABB	HK30WA358	2 speed indoor motor option		1,2,4
RA Smoke Detector	Telaire	HK50ZT001	7 lbs.		5,8,9,10
SA Smoke Detector	Telaire	HK50ZT001	7 lbs.		5,6,7,8,9,10
Condensate Overflow Switch	Rectorseal	AG-3180E	0.33 lbs		6,7,8,10
Louvered Hail Guard	Carrier	CRLVHLGD046A00	Carbon steel, 13.1 lbs.		8
		CRLVHLGD047A00	Carbon steel, 13.1 lbs.		9
		CRLVHLGD049A00	Carbon steel, 13.1 lbs.		Interp.
		CRLVHLGD048A00	Carbon steel, 17.2 lbs.		6,7,10

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com

UNIT UNDER TEST (UUT) SUMMARY SHEET



2000971-CR-001-R2

Manufacturer:		Carrier Corporation				
Model Line:		48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ				
UUT	Unit Description	Report Number	Testing Laboratory	S _{DS}	z/h	I _p
1	48HC-28	16039-TR-001, Rev.0	Pacific Earthquake Engineering Research Center	2.0 2.5	1 0	1.5
2	48HC-28	16039-TR-001, Rev.0	Pacific Earthquake Engineering Research Center	2.0 2.5	1 0	1.5
3	48HC-06	16039-TR-001, Rev.0	Pacific Earthquake Engineering Research Center	2.0 2.5	1 0	1.5
4	50HCQ-12	16039-TR-001, Rev.0	Pacific Earthquake Engineering Research Center	2.0 2.5	1 0	1.5
5	48FCLB05F2Q5A0A5F0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
6	48FCTN07M3R6A3A5F0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
7	48GCLN06M3R6A2A0D0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
8	48GCL04ALF5A0A0F0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
9	50GCQM04D1Q6A0A0T0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
10	50FCQM07L2S5A2A2F0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
11	48GCGM06A2A6A0A0A0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
64a/b	40QQ-036ABA3A0A0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
65a/b	40QQ-060ABA6A0A0	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
74	PEBH-SRT12CA-D2DH-4AY	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5
75	PEBH-SRT12CA-D0DB-2AY-4	2000971-TR-001-R0	Environmental Testing Laboratory (ETL)	2.0 2.5	1 0	1.5

Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 1
Model Line: q	
Model Number: 48HC-28 Serial Number: 3716P18818	

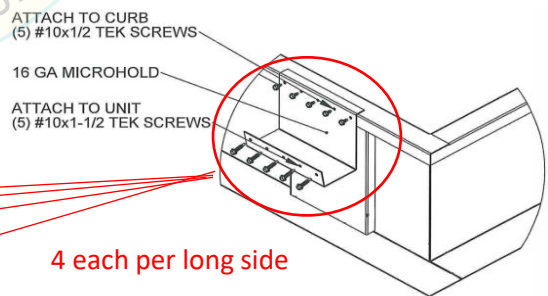
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
ZP137KCE compressor | 400 MBTUH Gas heat 50HE400799 | Condenser Coils: Al fins/Cu tubes, (2) @ 2 rows - 34.3 Sq. Ft. each | Evaporator Coils: Al fins/Cu tubes; 4 rows; 26.0 Sq. Ft. | (2) BBIZE-15-GA-B5 Refrigerant expansion device | Electromechanical controller CCX6Y3A2C7T4B4A300 | 48Y - 1/4 Hp Condenser Fan Motor w/ 6-Revcor 22 fans |S213T; 460V; 7.5 Hp Evap fan motor with (2) 15 X 15 fans | 460V 7.5 Hp VFD | Power Exhaust 50HE400973 | EconoMiSer 50HE402760 | Low Gas Heat 50HE401232 | SAV System w/VFD HK30WA358

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2960	86.4	182.5	57.4	8.5	9.0	9.0

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)	
Building Code: CBC 2019	ICC-ES AC156 (2010)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:



The unit was mounted to the curb using eight (8) 16 GA microholds as shown above with ten (10) #10 Tek Screws each. The curb was then mounted to the table using sixteen (16) 1/2" Grade 8 Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 2
Model Line: 48HC	
Model Number: 48HC-28	
Serial Number: 3716P18817	

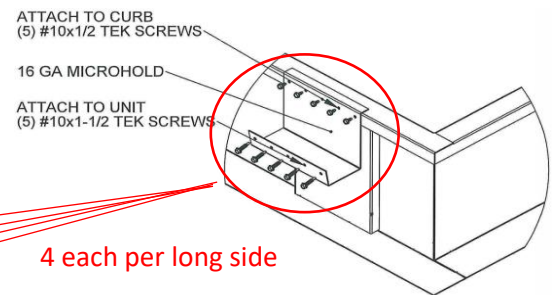
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
ZP137KCE compressor | 400 MBTUH Gas heat 50HE400799 | Condenser Coils: Al fins/Cu tubes, (2) @ 2 rows - 34.3 Sq. Ft. each | Evaporator Coils: Al fins/Cu tubes; 4 rows; 26.0 Sq. Ft. | (2) BBIZE-15-GA-B5 Refrigerant expansion device | RTU Open controller CCX5T7A2D1G0A4A100 | 48Y - 1/4 Hp Condenser Fan Motor w/ 6-Revcor 22 fans | S213T; 208-230V; 7.5 Hp Evap fan motor with (2) 15 X 11 fans | 208-230V 7.5 Hp VFD | Economizer ECE-MRT89CA-2M6 | Low Gas Heat 50HE401232 | SAV System w/VFD HK30WA358

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2720	86.4	182.5	57.4	8.5	9.0	9.0

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)	
Building Code: CBC 2019	ICC-ES AC156 (2010)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:



The unit was mounted to the curb using eight (8) 16 GA microholds as shown above with ten (10) #10 Tek Screws each. The curb was then mounted to the table using sixteen (16) 1/2" Grade 8 Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 3
Model Line: 48HC	
Model Number: 48HC-06	
Serial Number: 3716C87231	

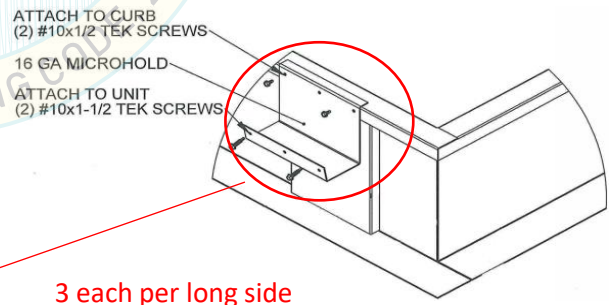
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
ZP49K5E compressor | 72 MBTUH Gas heat 48TM402783 | Condenser Coils: Al/Cu; 2 rows; 21.3 Sq. Ft. | Evaporator Coils: Al fins/Cu tubes; 3 rows; 7.3 Sq. Ft. | BBIZE-4-GA-B5 Refrigerant expansion device | RTU Open controller CCS5Y2A0B4ABA2A000 | 48Y - 1/4 Hp Condenser Fan Motor w/Revcor 22 fan | 56HY; 208-230V, 2.9 Hp Evap fan motor with 10 X 10 fan | EconoMi\$er PECE-SRT12CA-2M1 | Low Gas Heat 48TM402783

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
760	46.8	74.4	41.4	9.2	7.5	8.2

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)	
Building Code: CBC 2019	ICC-ES AC156 (2010)	2.0 2.5	1.0 0.0	1.5	3.20	2.40	1.67	0.67	

Test Mounting Details:



The unit was mounted to the curb using six (6) 16 GA microholds as shown above with four (4) #10 Tek Screws each. The curb was then mounted to the table using ten (10) 1/2" Grade 8 Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 4
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 50HCQ-12 Serial Number: 3716PO8397	

Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
ZP54K5E compressor | Condenser Coils: Al/Cu; (2) @ 2 rows; 23.1 Sq. Ft. each | Evaporator Coils: Al fins/Cu tubes; 3 rows; 17.3 Sq. Ft. | (2) BBIZE-5-GA-B5 Refrigerant expansion devices | Electromechanical controller CCL6HAA0A0H0A1A000 | 48Y - 1/4 Hp Condenser Fan Motor w/ (3) - HessAire 30 fans | 184T; 208-230V; 5 Hp Evap fan motor with (2) 18 X 18 fans | 460V 7.5 Hp VFD | Reversing Valve V6-41408A1CA | Refrigerant Expansion Device Acutrol 10 ton | SAV System w/VFD HK30WA358 | EconoMis\$er 50TM480945

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1740	63.4	115.9	57.4	9.2	7.5	8.2

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)	
Building Code: CBC 2019	ICC-ES AC156 (2010)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:

ATTACH TO CURB
(4) #10x1/2 TEK SCREWS

16 GA MICROHOLD

ATTACH TO UNIT
(4) #10x1-1/2 TEK SCREWS

3 each per long side

The unit was mounted to the curb using six (6) 16 GA microholds as shown above with eight (8) #10 Tek Screws each. The curb was then mounted to the table using fourteen (14) 1/2" Grade 8 Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 5
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 48FCLB05F2Q5A0A5F0 Serial Number: 5120C869920	

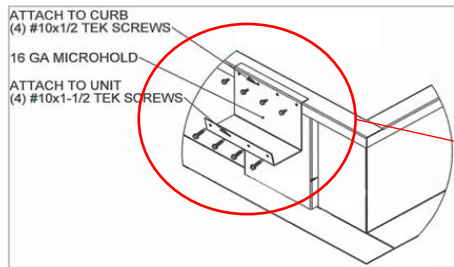
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Micrometl Economizer (ECH-SRT12CA-D2DH), Scroll Compressor (ZP42K6E-TF5-130), Gas Heat (48TC003554), Condenser Coil (Custom-AL/Cu), Evaporator Coil (Custom), Humidifier Coil (Custom), Solenoid Valve (EF23VS186, EF23VS183), TEV (BB1ZE-2-GA-B5), Control Box (48TCFSRBDH-A00), Condenser Fan (48TC003644), Condenser Fan Motor (5KCP39KGWG11S), Evaporator Fan(48TC001693), Evaporator Fan Motor (M3G112-EA89-F7), Smoke Detector (HK50ZT0001), SA Smoke Detector (HK50ZT001)

UUT Properties						
Weight (lb) ¹	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
820	46.6	74.4	33.4	>33.3	8.5	12.1

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)
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0					

Test Mounting Details:



Two brackets along each long side



MicroMetl curb (PN:CRBW-SRT12GA-2411) mounted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with sixteen (16) #12x1-1/2" screws. The curb is 24" tall.

¹Unit alone weights 543. Weight includes economizer and curb.

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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 6
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 48FCTN07M3R6A3A5F0 Serial Number: 4920C85926	

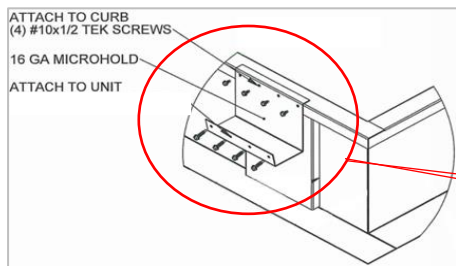
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Micrometl Economizer & Power Exhaust (PECD-SRT12CA-D2DH-4L1), Scroll Compressor (ZPS60K5E-TFD-130), Gas Heat(48TC002699), Condenser Coils (Custom-Cu/Cu), Evaporator Coil (Custom-Cu/Cu), Humidifier Coil (Custom-Cu/Cu), Solenoid Valve (EF23VS130, EF23VS183), TEV (BBIZE-6-GA-B5), Controls (48TCFSRBDZ-A00), Condenser Fan (48TC003644), Condenser Fan Motor (5KCP39HGWG04s), Evaporator Fan (48TC001693), Evaporator Fan Motor (M3G112-EA90-G5), SA Smoke Detector (HK50ZT001), Louvered Hail Guard (CRLVHLGD049A00)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
569	46.6	74.4	41.4	3.15	4.95	>33.3

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)	
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:



Two brackets on all sides. Three screws in each bracket



MicroMetl isolator curb (PN:CRBV-SRT12GA-2412-P20) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. The curb is 36" tall. Weight does not include power exhaust (175 lbs). 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

2000971-CR-001-R2



Manufacturer:	Carrier Corporation	UUT 7
Model Line:	48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number:	48GCLN06M3R6A2A0D0	
Serial Number:		4920C85974

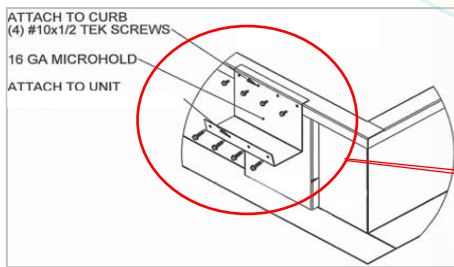
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Micrometl Economizer & Power Exhaust (PEBD-SRT12CA-D0DB-4AY-4), Scroll Compressor (ZPS49K5E-TFD-130), Gas Heat(48TC003555), Condenser Coils (Custom-Cu/Cu), Evaporator Coil (Custom-Cu/Cu), Solenoid Valve (EF23VS186, EF23VS183), TEV (Danfoss-068L1263), Reamer Valve (99CC405124), Controls (48TCFSRADR-A00), Condenser Fan (48TC003644), Condenser Fan Motor (5KCP39LGWF92S), Evaporator Fan (48TC001693), Evaporator Fan Motor (M3G084-GF01-V9), SA Smoke Detector (HK50ZT001), Louvered Hail Guard (CRLVHLGD049A00), Condensate Overflow Switch (AG-3180E)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
754	46.6	74.4	41.4	3.07	4.50	6.17

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)
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0					

Test Mounting Details:



Two brackets on all sides. Three screws in each bracket



MicroMetl isolator curb (PN:CRBV-SRT12GA-2412-P20) mounted to the table with twelve (12) 1/2" Grade 8 bolts with washers. The curb is 36" tall. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. Weight does not include power exhaust (175 lbs). 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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 8
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 48GCL04ALF5A0A0F0 Serial Number: 4920C85843	

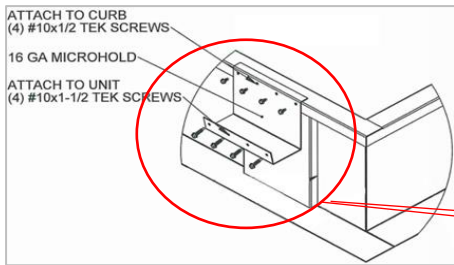
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Micrometl Economizer & Power Exhaust (PEBD-SRT12CA-D2DH-2AY), Scroll Compressor (ZPS49K5E-TFD-130), Gas Heat(48TC003554), Condenser Coils (Custom-Cu/Cu), Evaporator Coil (Custom-Cu/Cu), Solenoid Valve (EF23VS186, EF23VS183), TEV (Danfoss-068L1263), Reamer Valve (99CC405124), Controls (48TCFSRBDH-A00), Condenser Fan (48TC003644), Condenser Fan Motor (5KCP39LGWF92S), Evaporator Fan (48TC001693), Evaporator Fan Motor (M3G084-GF01-V9), SA Smoke Detector (HK50ZT001), Louvered Hail Guard (CRLVHLGD049A00), Condensate Overflow Switch (AG-3180E)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
624	46.6	74.4	33.4	>33.3	9.08	9.42

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)	
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0 2.5	1.0 0.0	1.5	3.20	2.40	1.67	0.67	

Test Mounting Details:



Two brackets along each long side



MicroMetl curb (PN:CRBW-SRT12GA-2411) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with sixteen (16) #12x1-1/2" screws. The curb is 24" tall. Weight does not include power exhaust (175 lbs)
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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 9
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 50GCQM04D1Q6A0A0T0 Serial Number: 5120C8916	

Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Scroll Compressor (ZPS30K5E-TFD-130), Electric Heat (CRHEATER336A00), Condenser Coils (Custom-Al/Cu), Evaporator Coil (Custom-Al/Cu), TEV (HXW-3-KX-10), Reamer Valve (99C405134), Controls (48TCFSRBDH-A00), Condenser Fan (48TC003644), Condenser Fan Motor (5KCP39KFWF71S), Evaporator Fan (48TC001693), Evaporator Fan Motor (M3G084-FA14-V5), RA Smoke Detector (HK50ZT001), SA Smoke Detector (HK50ZT001), Louvered Hail Guard (CRLVHLGD047A00), Thermal Expansion Valve (HXE-3KX-10)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
550	46.6	74.4	33.4	5.10	5.75	10.65

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)	
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:

Two brackets along each long side

MicroMetl curb (PN:CRBW-SRT12GA-2411) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with sixteen (16) #12x1-1/2" screws. The curb is 24" tall.
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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 10
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 50FCQM07L2S5A2A2F0 Serial Number: 4920C85978	

Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Scroll Compressor (ZPS60K5E-TFD-130), Electric Heat (CRHEATER332A00), Condenser Coils (Custom-Cu/Cu), Evaporator Coil (Custom-Cu/Cu), TXV (HXW-5-KX-10), Reamer Valve (99C405124,99CC404944, 99CC404954), Controls (48TCFSRADR-A00), Condenser Fan (48TC003644), Condenser Fan Motor (5KCP39KFWF69S), Evaporator Fan (48TC001693), Evaporator Fan Motor (M3G112-EA88-F6), RA Smoke Detector (HK50ZT001), SA Smoke Detector (HK50ZT001), Louvered Hail Guard (CRLVHLGD048A00), Condensate Overflow Switch (AG-3180E), Thermal Expansion Valve (HXE-5KX-10), Condensate Overflow Switch (AG-3180E)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
589	46.6	74.4	33.3	21.12	10.13	11.96

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)	
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:

Three brackets on all sides.

micromed filter curb (11.75511111-12-5A-CBC) mounted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. Weight of 810 lbs includes curb, unit without curb weighs 589 lbs. The curb is 40" tall.

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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 11
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 48GCGM06A2A6A0A0A0 Serial Number: 3320C88299	

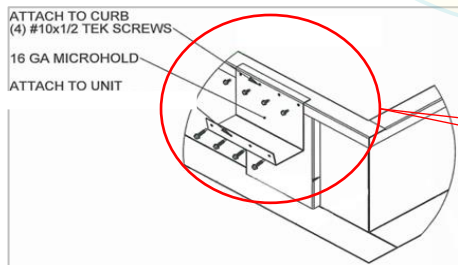
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Scroll Compressor (ZPS49K5E-TFD-130), Condenser Coils (Custom-AL/Cu), Evaporator Coil (Custom-AL/Cu), TEV (HXW-5-KX-10), Controls (48TCFSRADR-A00), Condenser Fan (48TC003644), Condenser Fan Motor (5KCP39LGWF92S), Evaporator Fan (48TC001693), Evaporator Fan Motor (M3G112-EA90-G5),

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
619	46.6	74.4	41.4	4.11	5.91	4.36

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)
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0					

Test Mounting Details:



Two brackets on all sides. Three screws in each bracket



MicroMetl isolator curb (PN:CRBV-SRT12GA-2412-P20) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. The curb is 36" tall.
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

2000971-CR-001-R2



Manufacturer:	Carrier Corporation	UUT 64a
Model Line:	48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number:	40QQ-036ABA3A0A0	
Serial Number:		4420C88680

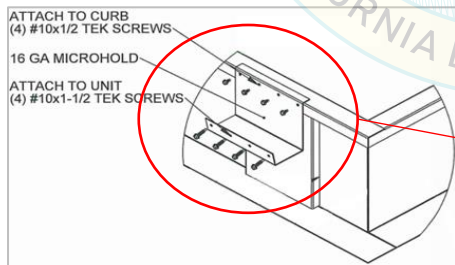
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
DX-PMV Kit (PN: RBM-A0121GUL), Brach Selector(PN:RBM-Y0384-FUL)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
359	46.6	74.4	33.4	9.91	21.72	11.82

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)
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0					

Test Mounting Details:



Three brackets on each long side



MicroMetl filter curb (PN:W537-FLT-12-SA-CBC) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. The curb is 40" tall.
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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 64b
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 40QQ-036ABA3A0A0 Serial Number: 4420C88680	

Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
DX PMV Kit (PN: RBM-A0961GUL), DX Controller (PN: TCB-IFDA1GUL), Brach Selector(PN:RBM-Y0384-FUL)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
359	46.6	74.4	33.4	9.91	21.72	11.82

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)
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0					

Test Mounting Details:

Three brackets on each long side

MicroMetl filter curb (PN:W537-FLT-12-SA-CBC) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. The curb is 40" tall.
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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 65a
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: 40QQ-060ABA6A0A0 Serial Number: 1320C86727	

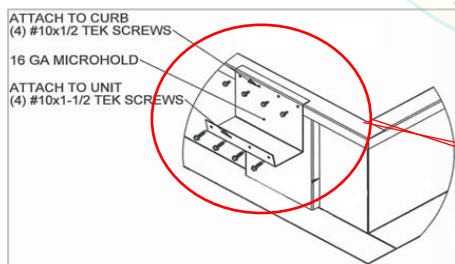
Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Electric Heat (PN: CRHEATER337A00), DX PMV Kit (PN: RBM-A0961GUL), DX Controller (PN: TCB-IFDA1-GUL), Branch Selector (PN: RBM-Y0383FUL)

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
425	46.6	74.4	41.4	6.31	6.30	8.04

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)	
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:



Two brackets on all sides. Three screws in each bracket



MicroMetl isolator curb (PN:CRBV-SRT12GA-2412-P20) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. The curb is 36" tall.
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

2000971-CR-001-R2



Manufacturer:	Carrier Corporation	UUT 65b
Model Line:	48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number:	40QQ-060ABA6A0A0	
	Serial Number:	1320C86727

Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
DX-PMV Kit (PN: RBM-A0121GUL)L, Branch Selector (PN: RBM-Y0383FUL)

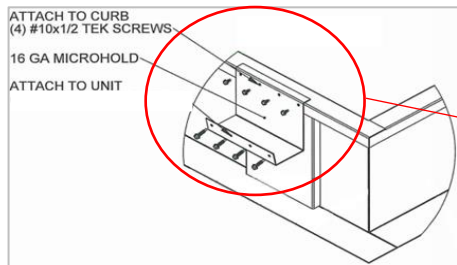
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
425	46.6	74.4	41.4	6.31	6.30	8.04

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)
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0					

Test Mounting Details:



Two brackets on all sides. Three screws in each bracket



MicroMetl isolator curb (PN:CRBV-SRT12GA-2412-P20) mouted to the table with twelve (12) 1/2" Grade 8 bolts with washers. Unit mounted to curb with twenty-four (24) #12x1-1/2" screws. The curb is 36" tall.
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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 74
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: PEBH-SRT12CA-D0DB-2AY-4 Serial Number: N/A	

Product Construction Summary:
Carbon steel construction.

Options/Subcomponent Summary:
Horizontal Economizer with Power Exhaust: PEBH-SRT12CA-D0DB-2AY-4

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
117.5	20.63	24.25	20.44	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)	
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:



Unit is both wall and base mounted rigidly. Two (2) MicroMetl legs (PN: MP-1908-049) each attached to the front of the unit with two (2) #12 self tappers. Each leg was attached to the shake table with two (2) 1/4" Grade 8 bolts with washers. Test unit attached to sheet metal on the wall fixture with twelve (12) #12 self tappers, three (3) on each side of the unit. 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

2000971-CR-001-R2



Manufacturer: Carrier Corporation	UUT 75
Model Line: 48HC, 48FC, 48GC, 50FC, 50GC, 50HC, 50HCQ, 50TCQ, 50GCQ, & 50FCQ	
Model Number: PEBH-SRT12CA-D2DH-4AY Serial Number: n/a	

Product Construction Summary:
Formed carbon steel construction.

Options/Subcomponent Summary:
Horizontal Economizer with Power Exhaust: PEBH-SRT12CA-D2DH-4AY

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
117.5	20.63	24.25	20.44	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)	
Building Code: CBC 2019	ICC-ES AC156 (2018)	2.0	1.0	1.5	3.20	2.40	1.67	0.67	
		2.5	0.0						

Test Mounting Details:



Unit is both wall and base mounted rigidly. Two (2) MicroMetl legs (PN: MP-1908-049) each attached to the front of the unit with two (2) #12 self tappers. Each leg was attached to the shake table with two (2) 1/4" Grade 8 bolts with washers. Test unit attached to sheet metal on the wall fixture with twelve (12) #12 self tappers, three (3) on each side of the unit. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.