Product Data

WeatherMaker®
Single Packaged Rooftop

3 to 6 Nominal Tons

ecoblue™ technology



48/50FC**04, 05, 06, 07

48FC: Single-Package Gas Heating/Electric Cooling Rooftop Units
50FC: Electric Cooling Rooftop Units with Optional Electric Heat with Puron® Refrigerant (R-410A)

© 2023 Carrier

Form 48-50FC-4-7-05PD Rev A

Features/Benefits

The New Carrier WeatherMaker® rooftop units (RTU) with EcoBlue™ Technology were designed by customers for customers and integrate new technology to provide value added benefits never seen in this type of equipment before.

New major design features include:

- Patent pending, industry's first efficient indoor fan system using Vane Axial fan with electric commutated variable speed motor
- Reliable fixed speed scroll compressor on 3-5 ton sizes and 2 stage scroll technology on 6 ton sizes
- Upgraded unit control board with intuitive indoor fan adjustment
- Reliable copper tube/aluminum fin condenser coil with 5/16 in. tubing to help reduce refrigerant charge versus prior designs
- New outdoor fan system with rugged — lightweight high impact composite fan blade

WeatherMaker® 48/50FC units up to 6 tons are specifically designed to fit on Carrier roof curbs that were installed back to 1989, which makes replacement easy and eliminates the need for curb adapters or changing utility connections.

Single-stage units deliver efficiencies of up to 14.0 SEER and 15.2 IEER on 3-phase products and 13.8 SEER2 on single-phase products. All models are capable of either vertical or horizontal airflow.

The Carrier rooftop unit (RTU) was designed by customers for customers. With "no-strip" screw collars, handled access panels, and more, the unit is easy to install, easy to maintain, and easy to use. Your new 3 to 6 ton Carrier WeatherMaker rooftop unit (RTU) provides optimum comfort and control from a packaged rooftop.

Value-added features include:

- optional Humidi-MiZer® adaptive dehumidification system for improved part load humidity performance
- Puron® refrigerant (R-410A)
- single point gas and electrical connections
- optional fully integrated SystemVu™ controls
- RTU Open controller for BACnet[1], LonWorks[2], Modbus[3] and Johnson Controls N2
- 3 to 5 ton models use fixed refrigerant metering devices and 6 ton models use a TXV
- Scroll compressors with internal line-break overload protection
- Units come with an easy access tool-less filter door. Filter track tilts out for filter removal and replacement. All filters are the same size in each unit

1. BACnet is a trademark of ASHRAE.
2. LonWorks is a registered trademark of Echelon Corporation.
3. Modbus is a registered trademark of Schneider Electric.

Installation ease

All WeatherMaker units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected jobsite complications. Lighter units make for easy replace. Simple, fast plug-in connections to the standard integrated unit control board (UCB). Clearly labeled connections points to reduce installation time. Also, a large control box provides room to work and room to mount Carrier accessory controls.

Easy to maintain

With the new EcoBlue Vane Axial fan system and direct drive ECM motor, there is no longer a need to adjust belts or pulleys as in past designs. This frees up maintenance and installation time.

Easy access handles by Carrier provide quick and easy access to all normally serviced components. Our "no-strip" screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit's metal.

Sloped, corrosion resistant composite drain pan sheds water; and won't rust.

Easy to use

The newly re-designed Unit Control Board by Carrier puts all connections and troubleshooting points in one convenient place. Most low voltage connections are made to the same board and make it easy to access it. Setting up the fan is simple by an intuitive switch and rotary dial arrangement. Carrier rooftops have high and low pressure switches, a filter drier, and 2-in. filters standard.

Table of contents

	Page
Features/Benefits	2
Model Number Nomenclature	4
Capacity Ratings	6
Physical Data	10
Options and Accessories	19
Base Unit Dimensions	24
Accessory Dimensions	30
Performance Data	31
Fan Data	47
Electrical Data	104
Typical Wiring Diagrams	132
Sequence of Operation	143
Application Data	146
Guide Specifications — 48FC	148
Guide Specifications — 50FC	160

Features/Benefits (cont)

EcoBlue™ Technology

Direct drive EcoBlue Technology indoor fan system uses Vane Axial fan design and electrically commutated motors.

This new Vane Axial design over past belt drive systems has 75% fewer moving parts, uses up to 40% less energy and has no fan belts, blower bearings and shaft.

Streamlined control and integration

Carrier controllers make connecting WeatherMaker® rooftops into existing building automation systems easy. The units are compatible with conventional thermostat controls, SystemVu™ controls and Carrier RTU Open multi-protocol controller.

Operating efficiency and flexibility

The 48/50FC rooftops meet ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1-2016, IECC[1] (International Energy Conservation Code) IECC-2018 minimum efficiency requirements.

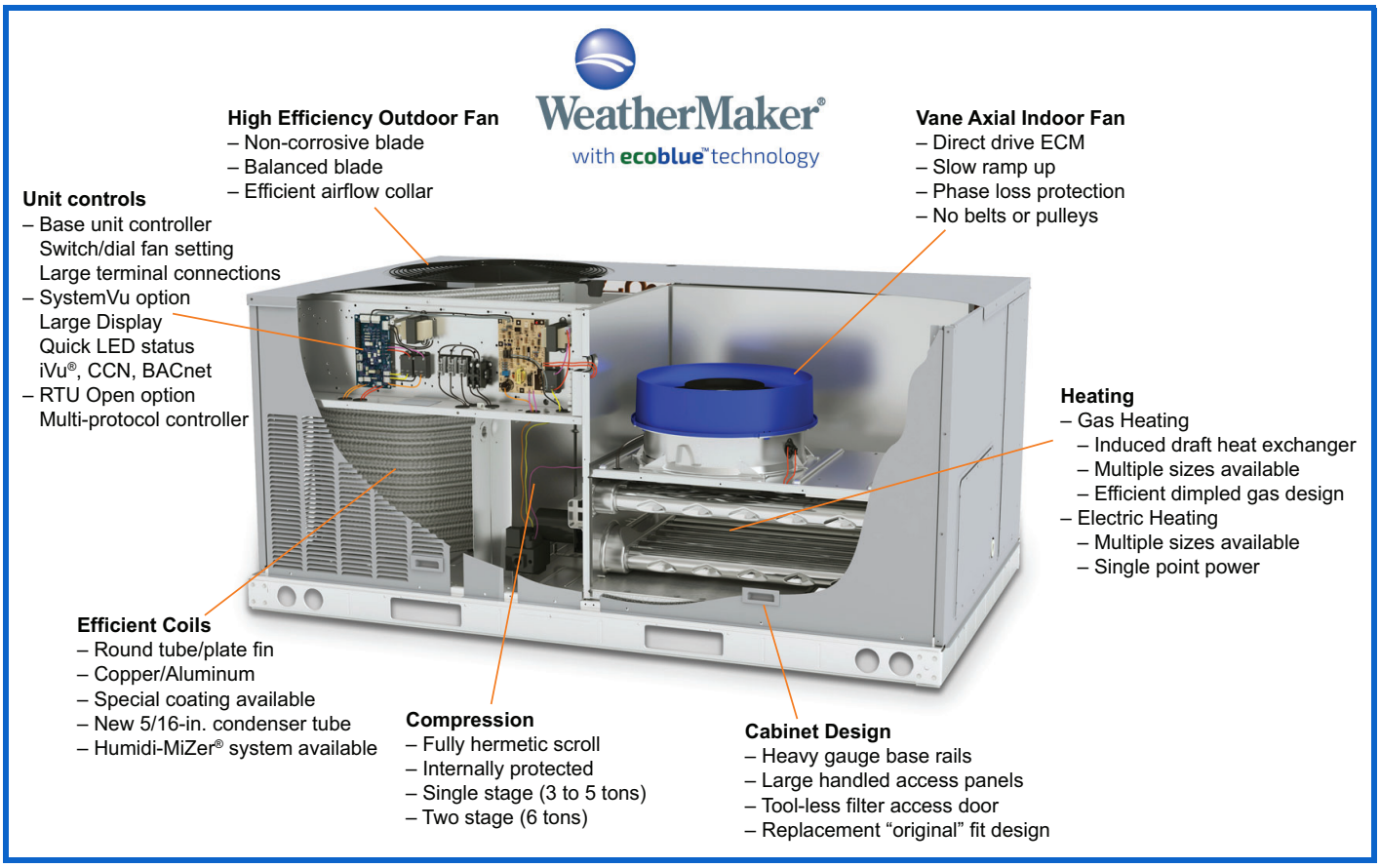
1. IECC is a registered trademark of the International Code Council, Inc.

Field convertible airflow

All WeatherMaker 3 to 6 ton units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected jobsite complications.

Comfort control

Carrier's patented Humidi-MiZer® adaptive dehumidification system is an all-inclusive factory-installed option on gas heating/electric cooling and electric cooling/electric heat models. This system provides reliable, flexible operation to meet indoor part load sensible and latent requirements.



Model number nomenclature

48FC Model Number Nomenclature

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	4	8	F	C	D	A	0	4	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
48 = Gas Heat Packaged Rooftop

Model Series — WeatherMaker®
FC = 14.0 SEER Standard Efficiency, sizes 04-06
13.4 SEER2 Standard Efficiency, sizes 04-06
15.0 IEER Standard Efficiency, size 07

Heat Size
D = Low Gas Heat
E = Medium Gas Heat
F = High Gas Heat
L = Low NOx — Low Gas Heat[1]
S = Low Heat with Stainless Steel Exchanger
R = Medium Heat with Stainless Steel Exchanger
T = High Heat with Stainless Steel Exchanger
(Low NOx models include Stainless Steel HX)

Refrig. Systems Options
A = Std One Stage Cooling Models[1]
B = Std One Stage Cooling Models with Humidi-MiZer® [1, 2]
C = Std One Stage Cooling Models, 1-phase voltage (SEER2)[1, 3]
M = Single Circuit, Two Stage Cooling Models[4]
N = Single Circuit, Two Stage Cooling Models with Humidi-MiZer[2, 4]

Cooling Tons
04 = 3 tons
05 = 4 tons
06 = 5 tons
07 = 6 tons

Sensor Options
A = None
B = Return Air (RA) Smoke Detector
C = Supply Air (SA) Smoke Detector
D = RA + SA Smoke Detector
E = CO_2 Sensor
F = RA Smoke Detector and CO_2 Sensor
G = SA Smoke Detector and CO_2 Sensor
H = RA + SA Smoke Detector and CO_2 Sensor
J = Condensate Overflow Switch
K = Condensate Overflow Switch + RA Smoke Detector
L = Condensate Overflow Switch + RA and SA Smoke Detectors
M = Condensate Overflow Switch + SA Smoke Detector

Indoor Fan Options
1 = Direct Drive — EcoBlue — Standard Static
2 = Direct Drive — EcoBlue — Medium Static
3 = Direct Drive — EcoBlue — High Static

Coil Options (Outdoor - Indoor — Hail Guard)
A = Al/Cu - Al/Cu
B = Precoat 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 = Precoat 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

Voltage
1 = 575-3-60
3 = 208/230-1-60[1, 5]
5 = 208/230-3-60
6 = 460-3-60
9 = 400-3-50[4]

Design Revision
- = Factory Design Revision

Base Unit Controls
0 = Electromechanical Controls — can be used with field-installed POL224 EconomizerONE (Non-Fault Detection and Diagnostic)[1]
2 = RTU Open Multi-Protocol Controller
3 = SystemVu™ Controls
6 = Electromechanical Controls – can be used with POL224 EconomizorONE (with Fault Detection and Diagnostic)

Intake / Exhaust Options
A = None
B = Temperature Economizer w/ Barometric Relief
F = Enthalpy Economizer w/ Barometric Relief
K = Two-Position Damper[1]
U = Temperature Ultra Low Leak Economizer with Barometric Relief
W = Enthalpy Ultra Low Leak Economizer with Barometric Relief

Service Options
0 = None
1 = Unpowered Convenience Outlet (CO)
2 = Powered Convenience Outlet
3 = Hinged Panels
4 = Hinged Panels and Unpowered CO
5 = Hinged Panels and Powered CO

Electrical Options
A = None
C = Non-Fused Disconnect (NFD)
D = Thru-the-Base (TTB) Connections
F = Non-Fused Disconnect and TTB Connections

Packaging & Seismic Compliance
0 = Standard
1 = LTL

[1] Size 04/05/06 models only.
[2] Units with Humidi-MiZer System include Low Ambient controller.
[3] Units meet Department of Energy 2023 SEER2 requirements.
[4] Size 07 models only.
[5] The following are not available as a factory-installed options for models with this voltage code: Humidi-MiZer System, Coated Coils or Cu Fin Coils, Louvered Hail Guards, Economizer or Two-Position Damper, Powered 115 Volt Convenience Outlet.

Model number nomenclature (cont)

50FC Model Number Nomenclature

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	5	0	F	C	-	A	0	4	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
50 = Electric Heat Packaged Rooftop

Model Series — WeatherMaker®
FC = 14.0 SEER Standard Efficiency, sizes 04-06
13.4 SEER2 Standard Efficiency, sizes 04-06
15.2 IEER Standard Efficiency, size 07

Heat Size
- = No heat

Refrig. Systems Options
A = Standard One Stage Cooling Models[1]
B = Standard One Stage Cooling Models with Humidi-MiZer® system[1, 2]
C = Standard One Stage Cooling Models, 1-phase voltage (SEER2)[1, 3]
M = Single Circuit, Two Stage Cooling Models[4]
N = Single Circuit, Two Stage Cooling Models with Humidi-MiZer system[2, 4]

Cooling Tons
04 = 3 tons
05 = 4 tons
06 = 5 tons
07 = 6 tons

Sensor Options
A = None
B = Return Air (RA) Smoke Detector
C = Supply Air (SA) Smoke Detector
D = RA + SA Smoke Detector
E = CO_2 Sensor
F = RA Smoke Detector and CO_2 Sensor
G = SA Smoke Detector and CO_2 Sensor
H = RA + SA Smoke Detector and CO_2 Sensor
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

Indoor Fan Options
1 = Direct Drive – EcoBlue – Standard Static
2 = Direct Drive – EcoBlue – Medium Static
3 = Direct Drive – EcoBlue – High Static

Coil Options – (Outdoor - Indoor - Hail Guard)
A = Al/Cu - Al/Cu
B = Precoat 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 = Precoat 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

Voltage
1 = 575-3-60
3 = 208/230-1-60[1, 5]
5 = 208/230-3-60
6 = 460-3-60
9 = 400-3-50[4]

Design Revision
- = Factory Design Revision

Base Unit Controls
0 = Electromechanical Controls – can be used with field-installed POL224 EconomizerONE (Non-Fault Detection and Diagnostic)[1]
2 = RTU Open Multi-Protocol Controller
3 = SystemVu™ Controls
6 = Electromechanical Controls – can be used with POL224 EconomizerONE (with Fault Detection and Diagnostic)

Intake / Exhaust Options
A = None
B = Temperature Economizer with Barometric Relief
F = Enthalpy Economizer with Barometric Relief
K = Two-Position Damper[1]
U = Temperature Ultra Low Leak Economizer with Barometric Relief
W = Enthalpy Ultra Low Leak Economizer with Barometric Relief

Service Options
0 = None
1 = Unpowered Convenience Outlet (CO)
2 = Powered Convenience Outlet
3 = Hinged Panels
4 = Hinged Panels and Unpowered CO
5 = Hinged Panels and Powered CO

Electrical Options
A = None
C = Non-Fused Disconnect (NFD)
D = Thru-the-Base (TTB) Connections
F = Non-Fused Disconnect and TTB Connections

Packaging & Seismic Compliance
0 = Standard
1 = LTL

[1] Size 04/05/06 models only.
[2] Units with Humidi-MiZer System include Low Ambient controller.
[3] Units meet Department of Energy 2023 SEER2 requirements.
[4] Size 07 models only.
[5] The following are not available as a factory-installed options for models with this voltage code: Humidi-MiZer System, Coated Coils or Cu Fin Coils, Louvered Hail Guards, Economizer or Two-Position Damper, Powered 115 Volt Convenience Outlet.

Capacity ratings

48FC*C 1-Phase AHRI Ratings[a,b,c,d]

UNIT	VOLTAGE	COOLING STAGES	NOMINAL CAPACITY (tons)	NET COOLING CAPACITY 2 (MBH)	TOTAL POWER 2 (kW)	SEER2	EER2
48FC*C04	3	1	3	34.0	3.0	13.4	11.5
48FC*C05	3	1	4	48.0	4.2	13.8	11.5
48FC*C06	3	1	5	58.5	5.1	13.6	11.5

NOTE(S):

a. Rated in accordance with AHRI Standards 210/240 (04-06 size).
b. Rating are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
c. Units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2023 (Department of Energy) Energy Standard for minimum SEER2 and EER2 requirements.
d. 48FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

48FC*A/M 3-Phase AHRI Ratings[a,b,c,d]

UNIT	VOLTAGE	COOLING STAGES	NOMINAL CAPACITY (tons)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER
48FC*A04	1, 5, 6	1	3	34.4	3.0	14.0	11.5
48FC*A05	1, 5, 6	1	4	47.0	4.1	14.0	11.6
48FC*A06	1, 5, 6	1	5	58.5	5.3	14.0	11.0
48FC*M07	1, 5, 6	2	6	70.0	6.4	—	11.0

UNIT	IEER WITH 2-SPEED INDOOR FAN MOTOR	NET COOLING CAPACITY 2 (MBH)	TOTAL POWER 2 (kW)	SEER2	EER2
48FC*A04	—	34.0	3.0	13.4	11.2
48FC*A05	—	47.0	4.2	13.4	11.2
48FC*A06	—	58.5	5.3	13.4	11.0
48FC*M07	15.0	—	—	—	—

NOTE(S):

a. Rated in accordance with AHRI Standards 210/240 (04-06 size) and 340/360 (07 size).
b. Rating are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
c. Units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) requirements, as well as DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER requirements and DOE-2023 Energy Standard for minimum SEER2 and EER2 requirements. ASHRAE 90.1 requires M1 ratings on 3-phase models.
d. 48FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
MBH — Btuh in thousands
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio

Capacity ratings (cont)

50FC-C 1-Phase AHRI Ratings[a,b,c,d]

UNIT	VOLTAGE	COOLING STAGES	NOM. CAPACITY (tons)	NET COOLING CAPACITY 2 (MBH)	TOTAL POWER 2 (KW)	SEER2	EER2
50FC*C04	3	1	3	34.0	3.0	13.4	11.5
50FC*C05	3	1	4	48.0	4.2	13.8	11.5
50FC*C06	3	1	5	58.5	5.1	13.6	11.5

NOTE(S):

a. Rated in accordance with AHRI Standards 210/240 (04-06 size).
b. Rating are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
c. Units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2023 (Department of Energy) Energy Standard for minimum SEER2 and EER2 requirements.
d. 50FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

50FC-A/M 3-Phase AHRI Ratings[a,b,c,d]

UNIT	VOLTAGE	COOLING STAGES	NOMINAL CAPACITY (tons)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER
50FC*A04	1, 5, 6	1	3	34.4	2.9	14	11.7
50FC*A05	1, 5, 6	1	4	47.0	4.0	14	11.8
50FC*A06	1, 5, 6	1	5	58.5	5.2	14	11.2
50FC*M07	1, 5, 6	2	6	70.0	6.3	—	11.2

UNIT	IEER WITH 2-SPEED INDOOR FAN MOTOR	NET COOLING CAPACITY 2 (MBH)	TOTAL POWER 2 (kW)	SEER2	EER2
50FC*A04	—	34.0	3.0	13.4	11.2
50FC*A05	—	47.0	4.2	13.4	11.2
50FC*A06	—	58.5	5.3	13.4	11.0
50FC*M07	15.2	—	—	—	—

NOTE(S):

a. Rated in accordance with AHRI Standards 210/240 (04-06 size) and 340/360 (07 size).
b. Rating are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
c. Units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) requirements, as well as DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER and DOE-2023 Energy Standards for minimum SEER2 and EER2 requirements. ASHRAE 90.1 requires M1 ratings on 3-phase models.
d. 50FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
MBH — Btuh in thousands
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio

Capacity ratings (cont)

Sound Ratings Table

48/50FC UNIT	COOLING STAGES	OUTDOOR SOUND (dB) at 60 Hz[a,b]								
		A-Weighted[c]	63	125	250	500	1000	2000	4000	8000
**04	1	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
**05	1	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
**06	1	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
*M07	2	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3

NOTE(S):

a. Outdoor sound data is measured in accordance with AHRI.
b. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
c. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of "average" human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI.

LEGEND

db — Decibel

Minimum - Maximum Airflow Ratings (cfm) — Natural Gas and Propane

VOLTAGE	UNIT	HEAT LEVEL	COOLING				HEATING[a]	
			Minimum Airflow cfm	Minimum 2-Speed Airflow (Low Speed)	Minimum 2-Speed Airflow (High Speed)	Maximum Airflow cfm	Minimum Airflow cfm	Maximum Airflow cfm
1 phase	48FC**04	LOW	900	—	—	1500	890	1950
		MED					800	1520
		HIGH					—	—
	48FC**05	LOW	1200	—	—	2000	890	2440
		MED					1050	2280
		HIGH					1220	2170
	48FC**06	LOW	1500	—	—	2500	890	3250
		MED					1050	2730
		HIGH					1220	2790
3 phase	48FC**04	LOW	900	—	—	1500	910	2010
		MED					960	1160
		HIGH					—	—
	48FC**05	LOW	1200	—	—	2000	910	2010
		MED					1250	2330
		HIGH					1390	2220
	48FC**06	LOW	1500	—	—	2500	910	2510
		MED					1250	2720
		HIGH					1390	2780
	48FC**07	LOW	1800	1200	1800	3000	910	3350
		MED					1250	3260
		HIGH					1390	3170

NOTE(S):

a. Heating rating values are identical for aluminum heat exchangers and stainless steel heat exchangers.

Minimum - Maximum Airflow Ratings (cfm) — Cooling Units and Accessory Electric Heat

UNIT	COOLING				ELECTRIC HEAT[a]	
	Minimum Airflow cfm	Minimum 2-Speed Airflow (Low Speed)	Minimum 2-Speed Airflow (High Speed)	Maximum Airflow cfm	Minimum Airflow cfm	Maximum Airflow cfm
50FC-*04	900	—	—	1500	900	1500
50FC-*05	1200	—	—	2000	1200	2000
50FC-*06	1500	—	—	2500	1500	2500
50FC-*07	1800	1200	1800	3000	1800	3000

NOTE(S):

a. Electric heat modules are available as field-installed accessories for 50FC units.

Capacity ratings (cont)

Heat Rating Table — Natural Gas and Propane

48FC UNIT		GAS HEAT	AL/SS HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)	AFUE EFFICIENCY (%)
			Input/Output Stage 1 (MBH)	Input/Output Stage 2 (MBH)			
Single Phase	04	LOW	—	65/53	25-55	81	81
		MED	—	90/73	45-85	82	81
		HIGH	—	—	—	—	—
	05	LOW	—	65/53	20-55	81	81
		MED	—	90/73	30-65	82	81
		HIGH	—	130/106	45-80	81	81
	06	LOW	—	65/53	15-55	81	81
		MED	—	90/73	25-65	82	81
		HIGH	—	130/106	35-80	81	81
Three Phase	04	LOW	—	67/54	25-55	81	—
		MED	82/65	110/93	50-85	80	—
		HIGH	—	—	—	—	—
	05	LOW	—	67/54	25-55	81	—
		MED	—	110/88	35-65	80	—
		HIGH	120/96	150/120	50-80	80	—
	06	LOW	—	67/54	20-55	81	—
		MED	—	110/88	30-65	80	—
		HIGH	120/96	150/120	40-80	80	—
	07	LOW	—	67/54	15-55	81	—
		MED	—	110/88	25-65	80	—
		HIGH	120/96	150/120	30-80	80	—

Heat Rating Table — Low NO_X

48FC UNIT		GAS HEAT	LOW NOx HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)	AFUE EFFICIENCY (%)
			Input/Output Stage 1 (MBH)	Input/Output Stage 2 (MBH)			
Single Phase	04	LOW	—	60/49	20-50	82.0	81.3
	05	LOW	—	60/49	20-50	82.0	81.3
	06	LOW	—	60/49	15-50	82.0	81.3
Three Phase	04	LOW	—	60/49	20-50	82.0	81.3
	05	LOW	—	60/49	20-50	82.0	81.3
	06	LOW	—	60/49	15-50	82.0	81.3

LEGEND

AFUE — Annual Fuel Utilization Efficiency
MBH — Btuh in thousands

Physical data

Carrier

48/50FC 3 Ton Physical Data

48/50FC UNIT	48/50FC*A04	48/50FC*B04	48/50FC*C04
NOMINAL TONS	3	3	3
BASE UNIT OPERATING WT (lb) 48FC/50FC[a]	482/437	482/437	482/437
REFRIGERATION SYSTEM			
No. Circuits/No. Compressors/Type	1 / 1/ Scroll	1 / 1/ Scroll	1 / 1/ Scroll
Puron® (R-410A) Charge A/B (lb-oz)	4-6	—	4-9.2
Humidi-MiZer® Puron (R-410A) Charge A/B (lb-oz)	—	7-8	—
Metering Device	Acutrol	Acutrol	Acutrol
Humidi-MiZer Metering Device	—	TXV-Acutrol	—
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	27/44	54/117
EVAPORATOR COIL			
Material (Tube/Fin)	Cu/Al	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	2/15	2/15	2/15
Total Face Area (ft²)	5.5	5.5	5.5
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL			
Material	Cu/Al	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	1/18	1/18	1/18
Total Face Area (ft²)	11.7	11.7	14.6
HUMIDI-MIZER COIL			
Material	—	Cu/Al	—
Coil Type	—	3/8 in. RTPF	—
Rows/FPI	—	1/17	—
Total Face Area (ft²)	—	4.1	—
EVAPORATOR FAN AND MOTOR			
Standard Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	0.44
Rpm Range	—	—	189-1890
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
Medium Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	0.71
Rpm Range	—	—	219-2190
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
High Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	1.07
Rpm Range	—	—	249-2490
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
Standard Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	0.44	0.44	—
Rpm Range	189-1890	189-1890	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—
Medium Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	0.71	0.71	—
Rpm Range	219-2190	219-2190	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—

Physical data (cont)

48/50FC 3 Ton Physical Data (cont)

48/50FC UNIT	48/50FC*A04	48/50FC*B04	48/50FC*C04
High Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	1.07	1.07	—
Rpm Range	249-2490	249-2490	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—
CONDENSER FAN AND MOTOR			
Qty / Motor Drive Type	1 / Direct	1 / Direct	1 / Direct
Motor HP/Rpm	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	23	23	23
FILTERS			
RA Filter Qty / Size (in.)	2 / 16 x 25 x 2	2 / 16 x 25 x 2	2 / 16 x 25 x 2
OA Inlet Screen Qty / Size (in.)	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE(S):

a. Base unit operating weight does not include weight of options.

Physical data (cont)

48/50FC 4 Ton Physical Data

48/50FC UNIT	48/50FC*A05	48/50FC*B05	48/50FC*C05
NOMINAL TONS	4	4	4
BASE UNIT OPERATING WT (lb) 48FC/50FC[a]	482/437	482/437	482/437
REFRIGERATION SYSTEM			
No. Circuits/No. Compressors/Type	1 / 1/ Scroll	1 / 1/ Scroll	1 / 1/ Scroll
Puron® (R-410A) Charge A/B (lb-oz)	9-14	—	8-9.6
Humidi-MiZer® Puron (R-410A) Charge A/B (lb-oz)	—	14-6	—
Metering Device	Acutrol	Acutrol	Acutrol
Humidi-MiZer Metering Device	—	TXV-Acutrol	—
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	27/44	54/117
EVAPORATOR COIL			
Material (Tube/Fin)	Cu/Al	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	3/15	3/15	3/15
Total Face Area (ft²)	5.5	5.5	5.5
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL			
Material	Cu/Al	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18	2/18
Total Face Area (ft²)	15.9	15.9	15.9
HUMIDI-MIZER COIL			
Material	—	Cu/Al	—
Coil Type	—	3/8 in. RTPF	—
Rows/FPI	—	2/17	—
Total Face Area (ft²)	—	4.1	—
EVAPORATOR FAN AND MOTOR			
Standard Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	0.72
Rpm Range	—	—	190-1900
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
Medium Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	1.06
Rpm Range	—	—	217-2170
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
High Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	1.53
Rpm Range	—	—	246-2460
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
Standard Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	0.72	0.72	—
Rpm Range	190-1900	190-1900	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—
Medium Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	1.06	1.06	—
Rpm Range	217-2170	217-2170	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—

Physical data (cont)

48/50FC 4 Ton Physical Data (cont)

48/50FC UNIT	48/50FC*A05	48/50FC*B05	48/50FC*C05
High Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	1.96	1.96	—
Rpm Range	266-2660	266-2660	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—
CONDENSER FAN AND MOTOR			
Qty / Motor Drive Type	1 / Direct	1 / Direct	1 / Direct
Motor HP/Rpm	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	23	23	23
FILTERS			
RA Filter Qty / Size (in.)	2 / 16 x 25 x 2	2 / 16 x 25 x 2	2 / 16 x 25 x 2
OA Inlet Screen Qty / Size (in.)	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE(S):

a. Base unit operating weight does not include weight of options.

Physical data (cont)

48/50FC 5 Ton Physical Data

48/50FC UNIT	48/50FC*A06	48/50FC*B06	48/50FC*C06
NOMINAL TONS	5	5	5
BASE UNIT OPERATING WT (lb) 48FC/50FC[a]	556/511	556/511	556/511
REFRIGERATION SYSTEM			
No. Circuits/No. Compressors/Type	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll
Puron® (R-410A) Charge A/B (lb-oz)	8-9	—	8-9.6
Humidi-MiZer® Puron (R-410A) Charge A/B (lb-oz)	—	15-0	—
Metering Device	Acutrol	Acutrol	Acutrol
Humidi-MiZer Metering Device	—	TXV-Acutrol	—
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	27/44	54/117
EVAPORATOR COIL			
Material (Tube/Fin)	Cu/Al	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	4/15	4/15	4/15
Total Face Area (ft²)	5.5	5.5	5.5
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL			
Material	Cu/Al	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18	2/18
Total Face Area (ft²)	15.9	15.9	15.9
HUMIDI-MIZER COIL			
Material	—	Cu/Al	—
Coil Type	—	3/8 in. RTPF	—
Rows/FPI	—	2/17	—
Total Face Area (ft²)	—	4.1	—
EVAPORATOR FAN AND MOTOR			
Standard Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	1.06
Rpm Range	—	—	215-2150
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
Medium Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	1.44
Rpm Range	—	—	239-2390
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
High Static 1 Phase			
Motor Qty/Drive Type	—	—	1/Direct
Maximum Cont Bhp	—	—	1.96
Rpm Range	—	—	266-2660
Fan Qty/Type	—	—	1/Vane Axial
Fan Diameter (in.)	—	—	16.6
Standard Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	1.06	1.06	—
Rpm Range	215-2150	215-2150	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—
Medium Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	1.44	1.44	—
Rpm Range	239-2390	239-2390	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—

Physical data (cont)

48/50FC 5 Ton Physical Data (cont)

48/50FC UNIT	48/50FC*A06	48/50FC*B06	48/50FC*C06
High Static 3 Phase			
Motor Qty/Drive Type	1/Direct	1/Direct	—
Maximum Cont Bhp	2.43	2.43	—
Rpm Range	284-2836	284-2836	—
Fan Qty/Type	1/Vane Axial	1/Vane Axial	—
Fan Diameter (in.)	16.6	16.6	—
CONDENSER FAN AND MOTOR			
Qty / Motor Drive Type	1 / Direct	1 / Direct	1 / Direct
Motor HP/Rpm	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	23	23	23
FILTERS			
RA Filter Qty / Size (in.)	2 / 16 x 25 x 2	2 / 16 x 25 x 2	2 / 16 x 25 x 2
OA Inlet Screen Qty / Size (in.)	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE(S):

a. Base unit operating weight does not include weight of options.

Physical data (cont)

48/50FC 6 Ton Physical Data

48/50FC UNIT	48/50FC*M07	48/50FC*N07
NOMINAL TONS	6	6
BASE UNIT OPERATING WT (lb) 48FC/50FC[a]	556/511	556/511
REFRIGERATION SYSTEM		
No. Circuits/No. Compressors/Type	1 / 1 / 2-Stage Scroll	1 / 1 / 2-Stage Scroll
Puron® (R-410A) Charge A/B (lb-oz)	10-3	—
Humidi-MiZer® Puron (R-410A) Charge A/B (lb-oz)	—	20-8
Metering Device	TXV	TXV
Humidi-MiZer Metering Device	—	TXV
High-Pressure Trip/Reset (psig)	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	27/44
EVAPORATOR COIL		
Material (Tube/Fin)	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	4/15	4/15
Total Face Area (ft^2)	7.3	7.3
Condensate Drain Connection Size	3/4 in.	3/4 in.
CONDENSER COIL		
Material	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18
Total Face Area (ft^2)	15.0	15.0
HUMIDI-MIZER COIL		
Material	—	Cu/Al
Coil Type	—	3/8 in. RTPF
Rows/FPI	—	2/17
Total Face Area (ft^2)	—	5.5
EVAPORATOR FAN AND MOTOR		
Standard Static 3 Phase		
Motor Qty/Drive Type	1/Direct	1/Direct
Maximum Cont Bhp	1.31	1.31
Rpm Range	230-2300	230-2300
Fan Qty/Type	1/Vane Axial	1/Vane Axial
Fan Diameter (in.)	16.6	16.6
Medium Static 3 Phase		
Motor Qty/Drive Type	1/Direct	1/Direct
Maximum Cont Bhp	1.76	1.76
Rpm Range	253-2530	253-2530
Fan Qty/Type	1/Vane Axial	1/Vane Axial
Fan Diameter (in.)	16.6	16.6
High Static 3 Phase		
Motor Qty/Drive Type	1/Direct	1/Direct
Maximum Cont Bhp	2.43	2.43
Rpm Range	284-2836	284-2836
Fan Qty/Type	1/Vane Axial	1/Vane Axial
Fan Diameter (in.)	16.6	16.6
CONDENSER FAN AND MOTOR		
Qty / Motor Drive Type	1 / Direct	1 / Direct
Motor HP/Rpm	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	23	23
FILTERS		
RA Filter Qty / Size (in.)	4 / 16 x 16 x 2	4 / 16 x 16 x 2
OA Inlet Screen Qty / Size (in.)	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE(S):

a. Base unit operating weight does not include weight of options.

Physical data (cont)

48FC 3 to 5 Ton Gas Heat Data — 1-Phase Units

48FC UNIT	48FC**04	48FC**05	48FC**06
GAS CONNECTION			
No. of Gas Valves	1	1	1
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47
Liquid Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47
HEAT ANTICIPATOR SETTING (AMPS)			
First Stage	0.14	0.14	0.14
Second Stage	0.14	0.14	0.14
NATURAL GAS HEAT			
LOW			
No. of Stages / No. of Burners (total)	1 / 2	1 / 2	1 / 2
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	25-55	20-55	15-55
MEDIUM			
No. of Stages / No. of Burners (total)	1 / 3	1 / 3	1 / 3
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	45-85	30-65	25-65
HIGH			
No. of Stages / No. of Burners (total)	—	1 / 3	1 / 3
Connection Size	—	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	—	195 / 115	195 / 115
Temperature Rise (°F)	—	45-80	35-80
LIQUID PROPANE HEAT			
LOW			
No. of Stages / No. of Burners (total)	1 / 2	1 / 2	1 / 2
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	25-55	20-55	15-55
MEDIUM			
No. of Stages / No. of Burners (total)	1 / 3	1 / 3	1 / 3
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	45-85	30-65	25-65
HIGH			
No. of Stages / No. of Burners (total)	—	1 / 3	1 / 3
Connection Size	—	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	—	195 / 115	195 / 115
Temperature Rise (°F)	—	45-80	35-80
LOW NOx GAS HEAT			
No. of Stages / No. of Burners (total)	1 / 2	1 / 2	1 / 2
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	20-50	20-50	15-50

LEGEND

Bhp — Brake Horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

Physical data (cont)

48FC 3 to 6 Ton Gas Heat Data — 3-Phase Units

48FC UNIT	48FC**04	48FC**05	48FC**06	48FC**07
GAS CONNECTION				
No. of Gas Valves	1	1	1	1
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47
Liquid Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47
HEAT ANTICIPATOR SETTING (AMPS)				
First Stage	0.14	0.14	0.14	0.14
Second Stage	0.14	0.14	0.14	0.14
NATURAL GAS HEAT				
LOW				
No. of Stages / No. of Burners (total)	1 / 2	1 / 2	1 / 2	1 / 2
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	25-55	25-55	20-55	15-55
MEDIUM				
No. of Stages / No. of Burners (total)	2 / 3	1 / 3	1 / 3	1 / 3
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	50-85	35-65	30-65	25-65
HIGH				
No. of Stages / No. of Burners (total)	—	2/ 3	2/ 3	2/ 3
Connection Size	—	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	—	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	—	50-80	40-80	35-80
LIQUID PROPANE HEAT				
LOW				
No. of Stages / No. of Burners (total)	1 / 2	1 / 2	1 / 2	1 / 2
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	25-55	25-55	20-55	15-55
MEDIUM				
No. of Stages / No. of Burners (total)	2 / 3	1 / 3	1 / 3	1 / 3
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	50-85	35-65	30-65	25-65
HIGH				
No. of Stages / No. of Burners (total)	—	2 / 3	2 / 3	2 / 3
Connection Size	—	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Rollout Switch Opens / Closes (°F)	—	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	—	50-80	40-80	35-80
LOW NOx GAS HEAT				
No. of Stages / No. of Burners (total)	1 / 2	1 / 2	1 / 2	—
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	—
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	—
Temperature Rise (°F)	20-50	20-50	15-50	—

Options and accessories

ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
GAS HEAT (48FC units only)		
Low, Medium or High Gas Heat — Aluminized Heat Exchanger	X	
Low, Medium or High Gas Heat — Stainless Steel Heat Exchanger	X	
Propane Conversion Kit		X
High Altitude Conversion Kit		X
Flue Discharge Deflector		X
Flue Shield		X
ELECTRIC HEAT (50FC units only)		
Electric Resistance Heaters		X
Single Point Kits		X
CABINET		
Thru-the-Base Electrical or Gas-Line Connections	X	X
Hinged Access Panels	X	
MERV-8 Filters	X	
COIL OPTIONS		
Cu/Cu Indoor and/or Outdoor Coils[a]	X	
Pre-coated Outdoor Coils[a]	X	
Premium, E-coated Outdoor Coils[a]	X	
HUMIDITY CONTROL		
Humidi-MiZer® Adaptive Dehumidification System[a]	X	
CONDENSER PROTECTION		
Condenser Coil Hail Guard (louvered design)[a]	X	X
CONTROLS		
Thermostats, Temperature Sensors, and Subbases		X
SystemVu™ DDC Communicating Controller	X	
RTU Open Multi-Protocol Controller	X	
Smoke Detector (supply and/or return air)	X	
Horn Strobe Annunciator[b]		X
Time Guard II Compressor Delay Control Circuit		X
Phase Monitor	X	X
Condensate Overflow Switch	X	X

ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
ECONOMIZERS AND OUTDOOR AIR DAMPERS		
EconoMi$er® IV for Electro-mechanical Controls — Non FDD (Standard air leak damper models)[a,c,d]	X	X
EconoMi$er 2 for DDC controls (Standard and Ultra Low Leak air damper models)[a,e]	X	X
EconoMi$er X for Electro-mechanical Controls, complies with FDD (Standard and Ultra Low Leak damper models)[a,c,d]	X	X
Motorized Two-Position Outdoor-Air Damper[a]	X	X
Manual Outdoor-Air Damper (25% and 50%)		X
Barometric Relief[f]	X	X
Power Exhaust — Prop Design		X
ECONOMIZER SENSORS AND IAQ DEVICES		
Single Dry Bulb Temperature Sensors[g]	X	X
Differential Dry Bulb Temperature Sensors[g]		X
Single Enthalpy Sensors[g]	X	X
Differential Enthalpy Sensors[g]		X
CO_2 Sensor (wall, duct, or unit mounted)[g]	X	X
INDOOR MOTOR AND DRIVE		
Multiple Motor and Drive Packages	X	
LOW AMBIENT CONTROL		
Winter Start Kit[h]		X
Low Ambient Controller to –20°F (–29°C)[h]		X
POWER OPTIONS		
Convenience Outlet (powered)[a]	X	
Convenience Outlet (unpowered)	X	
Non-Fused Disconnect[i]	X	
ROOF CURBS		
Roof Curb 14 in. (356 mm)		X
Roof Curb 24 in. (610 mm)		X

NOTE(S):

a. Not available as a factory-installed option on single phase (-3 voltage code) models. Use field-installed accessory where available.
b. Requires a field-supplied 24-v transformer for each application. See price pages for details.
c. FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
d. Available as a factory-installed option for 04-06 models only.
e. Models with SystemVu and RTU Open DDC controls comply with California Title 24 Fault Detection and Diagnostic (FDD).
f. Included with economizer.
g. Sensors used to optimize economizer performance.
h. See application data for assistance.
i. Non-fused disconnect switch cannot be used when unit electrical rating exceeds:
208/230-1-60 and 208/230-3-60 = 80 amps (FLA).
480-3-60 and 575-3-60 = 80 amps (FLA).
Carrier RTUBuilder automatically selects the amp limitations.

Options and accessories (cont)

Factory-installed options

Economizer (dry-bulb or enthalpy)

Economizers save money. They bring in fresh, outside air for ventilation; and provide cool, outside air to cool your building. This is the preferred method of low-ambient cooling. When coupled to CO_2 sensors, economizers can provide even more savings by coupling the ventilation air to only that amount required.

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. Additional sensors are available as accessories to optimize the economizers. Economizers include a powered exhaust system to help equalize building pressures.

Economizers include gravity controlled barometric relief that helps equalize building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. Economizers are available in Ultra Low Leak and standard low leak versions. Economizers can be factory-installed or easily field-installed.

Unit mounted CO_2 sensor

The CO_2 sensor works with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO_2 sensor detects their presence through increasing CO_2 levels, and opens the economizer appropriately. When the occupants leave, the CO_2 levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called demand controlled ventilation (DCV), reduces the overall load on the rooftop, saving money. It is also available as a field-installed accessory.

Smoke detector (supply and/or return air)

Trust the experts. Smoke detectors make your application safer and your job easier. Carrier smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

Optional Humidi-MiZer® adaptive dehumidification system

Carrier's Humidi-MiZer adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any WeatherMaker® 48/50FC04-07 rooftop unit, with the exception of single phase voltage (208-230/1/60) units.

This system expands the envelope of operation of Carrier's WeatherMaker rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

The Humidi-MiZer adaptive dehumidification system has a unique dual operational mode setting. The Humidi-MiZer system provides greater dehumidification of the occupied space by 2 modes of dehumidification operations in addition to its normal design cooling mode.

The WeatherMaker 48/50FC04-07 rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, sub-cooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Sub-cooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

NOTE: Humidi-MiZer system includes Low Ambient controller.

Thru-the-base connections

Thru-the-base connections, available as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, as well as control power.

Hinged access panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are filter, control box access indoor fan motor access.

Cu/Cu (indoor) coils

Copper fins and copper tubes are mechanically bonded to copper tubes and copper tube sheets. A polymer strip prevents coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

E-coated (outdoor and indoor) coils

A flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.

Pre-coated outdoor coils

A durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. Coating is applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.

Condenser coil hail guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

Single enthalpy sensor

Prevents the wheel from rotating if the outside air conditions are acceptable for free cooling. Both exhaust and supply blowers will remain on.

Stainless steel heat exchanger (48FC units only)

The stainless steel heat exchanger option provides the tubular heat exchanger be made out of a minimum 20 gauge type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

Convenience outlet (powered or un-powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Carrier will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with "Wet in Use" cover. The "powered" option allows the installer to power the

Options and accessories (cont)

outlet from the line side of the disconnect or load side as required by code. The "unpowered" option is to be powered from a separate 115/120v power source.

The unpowered convenience outlet is available as a 15 amp factory-installed option or a 20 amp field-installed accessory.

Non-fused disconnect

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop. When selecting a factory-installed non-fused disconnect, note they are sized for the unit as ordered from the factory. The sizing of these do not accommodate field-installed items such as power exhaust devices, etc. If field installing electric heat with factory-installed non-fused disconnect switch, a single point kit may or may not be required.

SystemVu™ controller

Carrier's SystemVu controller is an optional factory-installed and tested controller.

This controller takes on a whole new approach to provide an intuitive, intelligent controller that not only monitors and controls the unit, but also provides linkage to multiple building automation systems.

Each SystemVu controller makes it easy to set up, service, troubleshoot, gain historical data, generate reports and provide comfort only Carrier is noted for.

Key features include:

- Easy to read back lit 4 line text screen for superior visibility.
- Quick operational condition LEDs of: Run, Alert, and Fault.
- Simple navigation with large keypad buttons of: Navigation arrows, Test, Back, Enter and Menu.
- Capable of being controlled with a conventional thermostat, space sensor or build automation system.
- Service capabilities include:
  Auto run test
  Manual run test
  Component run hours and starts
  Commissioning reports
  Data logging
- Full range of diagnosis:
  Read refrigerant pressures without the need of gauge
  Sensor faults
  Compressor reverse rotation
  Economizer diagnostics that meet California Title 24 requirements
- Quick data transfer via USB port:
  Unit configuration uploading/downloading
  Data logging
  Software upgrades
- Built in capacity for:
  i-Vu® open systems
  BACnet systems
  CCN systems
- Configuration and alarm point capability:
  Contain over 100 alarm codes
  Contain over 260 status, troubleshooting, diagnostic and maintenance points
  Contain over 270 control configuration setpoints

RTU Open, multi-protocol controller

Connect the rooftop to an existing BAS (building automation system) without needing complicated translators or adapter modules using the RTU Open controller. The RTU Open controller speaks the 4 most common building automation system languages (BACnet, Modbus, Johnson Controls N2, and LonWorks). Use this controller when you have an existing BAS. Besides the 4 protocols, it also communicates with a Carrier Open system (i-Vu and VVT®).

Condensate overflow switch

This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:

- Indicator light — solid red (more than 10 seconds on water contact — compressors disabled), blinking red (sensor disconnected)
- 10-second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping)
- Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for economizer.

Power exhaust with barometric relief

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

Options and accessories (cont)

Field-installed accessories

Filter maintenance indicator

When the optional factory-installed filter maintenance indicator is used, a factory-installed differential pressure switch measures pressure drop across the outside air filter and activates a field-supplied dry contact indicator when the pressure differential exceeds the adjustable switch setpoint.

Condenser coil hail guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact. This can be purchased as a factory-installed option or as a field-installed accessory.

Differential enthalpy sensor

The differential enthalpy sensor is comprised of an outdoor and return air enthalpy sensors to provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.

Wall or duct mounted CO_2 sensor

The IAQ sensor shall be available in duct or wall mount. The sensor provides demand ventilation indoor air quality (IAQ) control.

Propane conversion kit (48FC units only)

Convert your gas heat rooftop from standard natural gas operation to Propane using this field-installed kit.

High altitude conversion kit (48FC units only)

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software, or the unit's service manual. High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft^3 at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevation without any operational issues.

Flue discharge deflector (48FC units only)

The flue discharge deflector is a useful accessory when flue gas recirculation is a concern. By venting the flue discharge upwards, the deflector minimizes the chance for a neighboring unit to intake the flue exhaust.

MERV-8 return air filters

This factory option upgrades the return air filters from standard unit filters to high efficiency MERV-8 filters. Non-woven MERV-8 filter media with high strength, moisture-resistant frame. Filter media is securely fasted inside the filter frame on all 4 sides.

Phase monitor protection

The Phase Monitor Control will monitor the sequence of 3-phase electrical system to provide a phase reversal protection and monitor the 3-phase voltage inputs to provide a phase loss protection for the 3-phase device. It will work on either a Delta or Wye power connection.

Winter start kit

The winter start kit by Carrier extends the low ambient limit of your rooftop to 25°F (–4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient precautions may still be prudent.

Low ambient controller

The low ambient controller is a head pressure controller kit that is designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling when economizer usage is either not appropriate or desired. The low ambient controller will either cycle the outdoor fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. This controller allows cooling operation down to –20°F (–29°C) ambient conditions.

Roof curb (14 in./356 mm or 24 in./610 mm)

Full perimeter roof curb with exhaust capability provides separate air streams for energy recovery from the exhaust air without supply air contamination.

Filter status indicator accessory

Monitors static pressure across supply and exhaust filters and provides indication when filters become clogged.

Power exhaust

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

Manual OA Damper

Manual outdoor air dampers are an economical way to bring in ventilation air. The dampers are available in 25% and 50% versions.

NOTE: See application tip "ROOFTOP-18-01" prior to use of this damper on 07 size models.

Motorized Two-Position Damper

The Carrier two-position, motorized outdoor air damper admits up to 100% outside air. Using reliable, gear-driven technology, the 2-position damper opens to allow ventilation air and closes when the rooftop stops, stopping unwanted infiltration.

NOTE: See application tip "ROOFTOP-18-01" prior to use of this damper on 07 size models.

Options and accessories (cont)

Electric Heaters

Carrier offers a full-line of field-installed accessory heaters. The heaters are very easy to use, install and are all pre-engineered and certified.

Time Guard II control circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required with SystemVu™ controller, RTU Open controller, or authorized commercial thermostats.

Options and Accessory Weights

OPTION / ACCESSORY NAME	48/50FC UNIT WEIGHT[a]							
	04		05		06		07	
	lb	kg	lb	kg	lb	kg	lb	kg
Humidi-MiZer® System[b]	15	7	15	7	15	7	24	11
Power Exhaust — Vertical	51	23	51	23	51	23	51	23
Power Exhaust — Horizontal	39	18	39	18	39	18	39	18
EconoMi$er® (X, IV, or 2)	35	16	35	16	35	16	35	16
Two-Position Damper	39	18	39	18	39	18	58	26
Manual Damper	12	5	12	5	12	5	18	8
Medium Gas Heat (48FC units only)	9	4	9	4	9	4	15	7
High Gas Heat (48FC units only)	—	—	63	29	63	29	63	29
Hail Guard (louvered)	13	6	13	6	13	6	17	8
Cu/Cu Condenser Coil	37	17	74	34	74	34	95	43
Cu/Cu Condenser and Evaporator Coils	75	34	112	51	112	51	165	75
Roof Curb (14 in. curb)	95	43	95	43	95	43	95	43
Roof Curb (24 in. curb)	150	68	150	68	150	68	150	68
CO_2 Sensor	2	1	2	1	2	1	2	1
Flue Discharge Deflector	7	3	7	3	7	3	7	3
Optional Indoor Motor/Drive	10	5	10	5	10	5	15	7
Low Ambient Controller	9	4	9	4	9	4	9	4
Winter Start Kit	5	2	5	2	5	2	5	2
Return Air Smoke Detector	7	3	7	3	7	3	7	3
Supply Air Smoke Detector	7	3	7	3	7	3	7	3
Fan Filter Switch	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7
Powered Convenience Outlet	36	16	36	16	36	16	36	16
Unpowered Convenience Outlet	4	2	4	2	4	2	4	2
Enthalpy Sensor	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1

NOTE(S):

a. Where multiple variations are available, the heaviest combination is listed.
b. For Humidi-MiZer system, add Low Ambient controller weight.

48FC**04-07 Base Unit Dimensions

NOTES:

1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

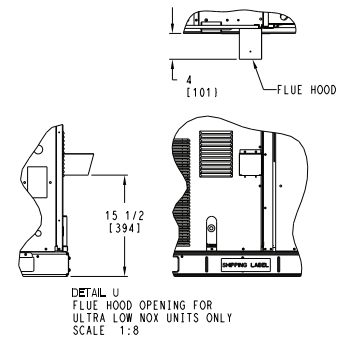
UNIT	J	K
48FC**04	33 3/8 [847]	18 5/8 [472]
48FC**05	33 3/8 [847]	14 7/8 [377]
48FC**06	33 3/8 [847]	14 7/8 [377]
48FC**07	41 3/8 [1051]	18 5/8 [472]

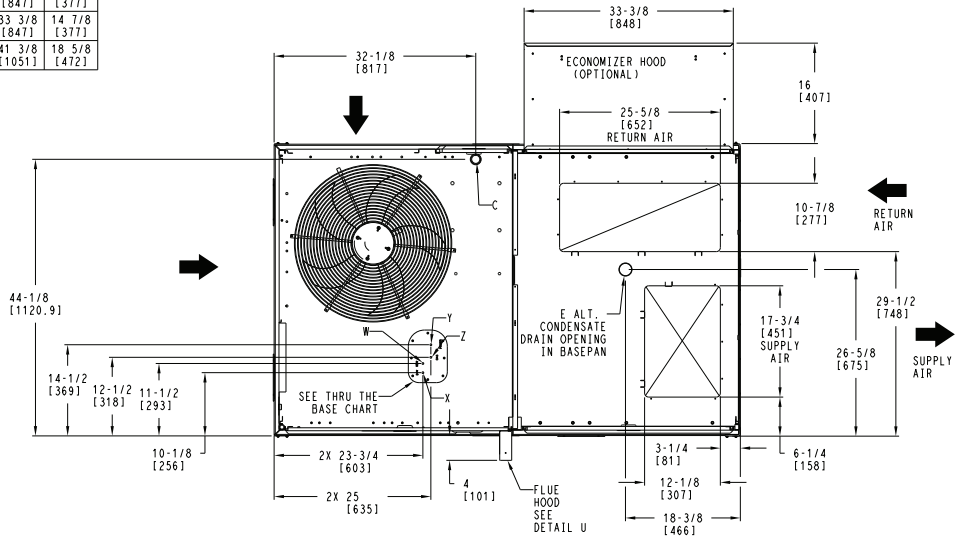
Carrier | THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT. | SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.

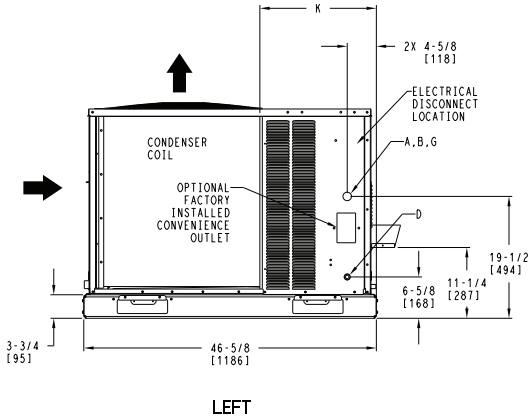
	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2" [50] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	2 1/2 " [64] DIA POWER SUPPLY KNOCK-OUT

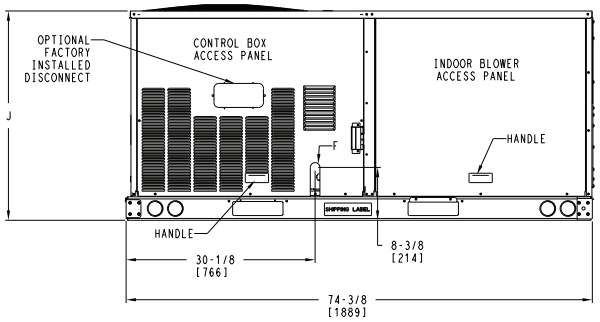
THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE CRBTMPWR008A00, 009A00

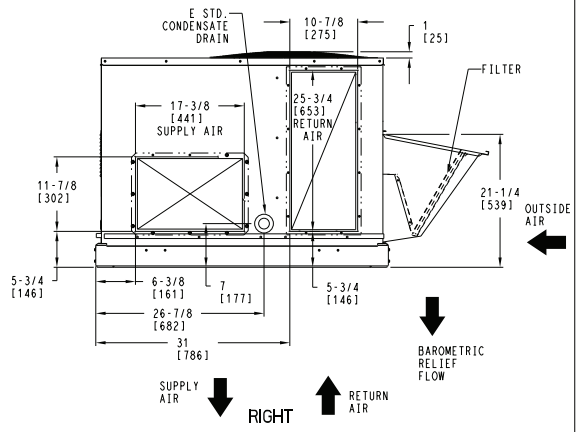
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	115V	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	3/4"	POWER	1-1/8" [28.6]
Z*	(009A00) 1/2" FPT	GAS	1-1/8" [28.6]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED		
*	(008A00) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.		











ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	1 OF 3	11/17/20	04/02/19	48FC 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003093	D

48FC**04-07 Base Unit Dimensions (cont)

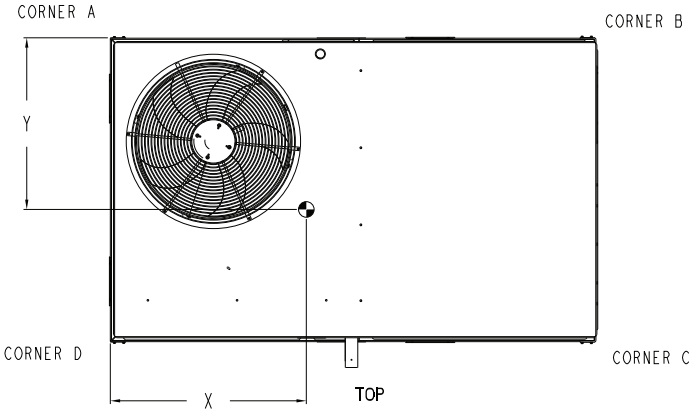
UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FC**04	482	219	113	51	116	53	128	58	125	57	37 5/8 [956]	24 9/16 [624]	18 1/4 [464]
48FC**05	543	246	138	63	133	60	133	60	138	63	36 1/2 [927]	23 3/8 [594]	18 [457]
48FC**06	556	252	142	64	136	62	136	62	142	64	36 1/2 [927]	23 3/8 [594]	18 [457]
48FC**07	607	275	162	73	152	69	141	64	151	68	36 [914]	22 1/2 [572]	19 3/8 [492]

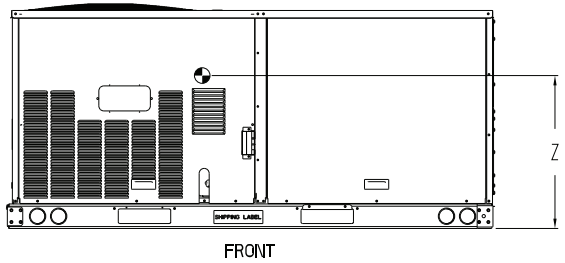
* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

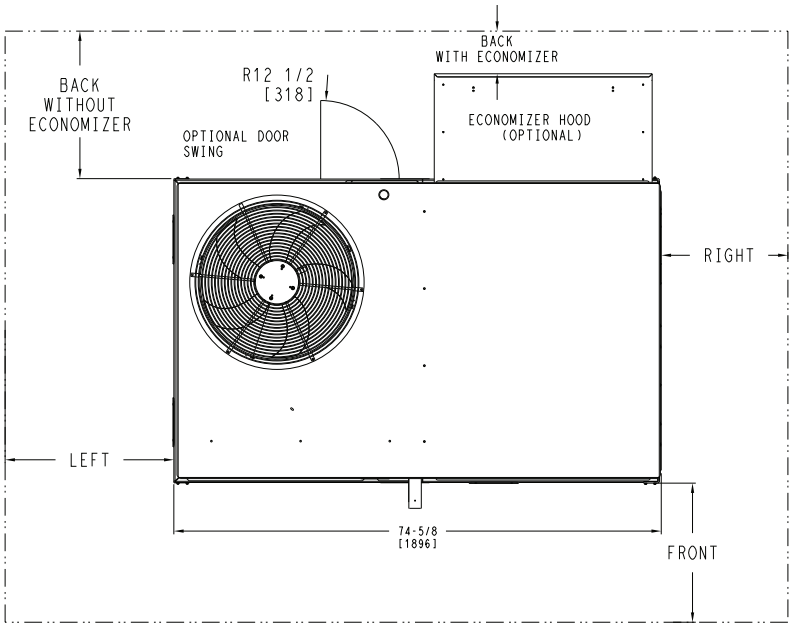
THIS TABLE IS FOR "ULTRA LOW NOX" UNITS ONLY

UNIT	STD. UNIT WEIGHT**		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FCG*04	512	233	120	55	122	55	136	62	134	61	37 1/2 [953]	24 11/16 [627]	18 1/8 [460]
48FCG*05	573	260	146	66	139	63	141	64	147	67	36 3/8 [924]	23 1/2 [597]	18 [457]
48FCG*06	586	266	149	68	143	65	144	65	151	69	36 3/8 [924]	23 1/2 [597]	18 [457]

** STANDARD UNIT WEIGHT IS WITH WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.







Carrier
THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT.
SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.

NOTES:

1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O HOOD	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 3	11/17/20	04/02/19	48FC 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003093	D