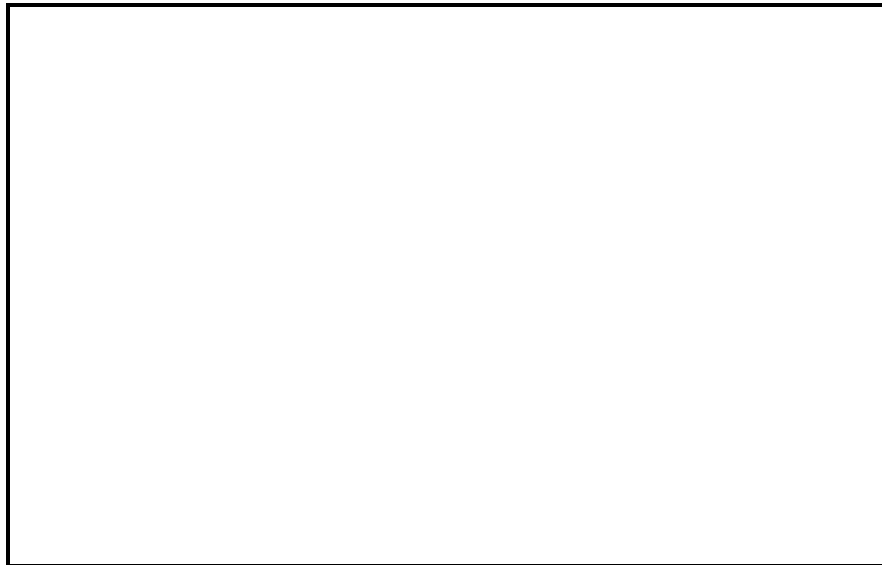


48LC WeatherExpert™ Series
Ultra High Efficient
Single Package Rooftop and Single Zone VAV
Gas Heating/Electric Cooling Unit
Sizes 04 – 06 with Puron® (R-410A) Refrigerant



Submittal Data

- **PERFORMANCE DATA**
- **CERTIFIED DIMENSION PRINTS**
- **CERTIFIED ROOF CURB
DIMENSION PRINTS**



Job Data: _____ Location: _____
 Buyer: _____ Buyer P.O.#: _____ Carrier: _____
 Unit Number: _____ Model Number: _____
 Unit Designation: _____
 Performance Data Certified By: _____

DESCRIPTION

The 48LC are ultra high efficiency, single-packaged electric cooling, gas heating units that are pre-wired and pre-charged with Puron® (R-410A) HFC refrigerant. Units utilize 2 stage cooling capacity scroll compressor technology with optional Variable Frequency Drive (VFD) indoor fan

motor control or Direct Drive (multi speed/torque) ECM motor. Models with Carrier *ComfortLink* controls allows added unit diagnostics and operation set up capabilities as well as controlling logic for single zone variable air volume (SZ-VAV) applications.

STANDARD FEATURES

Base Unit

- Same unit footprint as Carrier models produced in the late 1980's. Ideal for replacement, tight spaces
- Puron (R-410A) HFC refrigerant
- SEER's: Up to 17.5 with Direct Drive ECM .
Up to 16.4 with Belt Drive/VFD indoor fan motor. VFD includes display standard on electro mechanical and RTU Open models. On ComfortLink models, VFD control operation is accessed through the ComfortLink controls.
- ASHRAE 90.1 energy compliant & Energy Star qualified
- Meets or exceeds CEE criteria
- Rated in accordance with AHRI Standards 210/240
- Designed in accordance with Underwriters' Laboratories Std 1995
- Listed by UL and CUL-Canada
- 2 stage cooling capacity scroll compressor technology
- Belt drive evaporator-fan motor and pulley system with Variable Frequency Drive (VFD) controller or Direct Drive (multi speed/torque) ECM (Electronically Commutated Motor) motor
- High efficient Electronically Commutated Motor (ECM) - outdoor fan motor
- Non-corrosive composite sloping design; side or center drain condensate pan. Meets ASHRAE Standard 62
- Ambient cooling operating from 0°F (-18°C) to 125°F (52°C) with ComfortLink and from 10°F (-12°C) to 125°F (52°C) with electrical mechanical controls.
- Field convertible from vertical to horizontal airflow for slab mounting — No special kits required
- Two-inch disposable return air filters
- Thru-the-bottom power and gas entry capability
- Single point gas and electric connections
- 24-volt control circuit protected with resettable circuit breaker
- Permanently lubricated evaporator-fan motor
- Totally enclosed condenser motors with permanently lubricated bearings
- Low-pressure and high-pressure switch protection

- Full perimeter base rail with built-in rigging adapters and fork truck slots
- Sound levels as low as 76 dB
- Central terminal board facilitating simple safety circuit troubleshooting and simplified control box arrangement

Cabinet

- Cleanable foil-faced insulation throughout cabinet
- Innovative, easy starting, no-strip screw feature on unit access panels
- Access panels with easy grip handles and tool-less filter access door
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection

Refrigerant System

- Precision sized TXV refrigerant metering system
- High capacity liquid line filter drier
- 2 stage cooling capacity scroll compressors with crankcase heater
- High performance internally enhanced copper tube, aluminum fin coils with optional corrosion resistant coils
- Removable gauge line plugs for reading refrigerant pressure with unit panels in place

Gas Heat

- Exclusive IGC solid-state gas heat exchanger control for on-board diagnostics, anti-cycle protection, LED error code designation, burner control logic and energy saving indoor fan motor delay
- Low NOx models that meet California Air Quality Management NOx requirement of 40 nanograms/joule or less. Low NOx models include stainless steel heat exchangers
- Gas efficiencies up to 82%
- Inducted draft gas heat combustion
- Redundant gas valves with up to two stages of heating
- Flame roll-out safety protector
- Solid-state electronic direct spark ignition system
- Alumagrad™ coated Turbo-tubular™ heat exchangers

STANDARD FEATURES (cont.)

Standard Limited Parts Warranty

- 15-year gas heat exchanger parts - Stainless Steel
- 10-year gas heat exchanger parts - Aluminized
- 5-year compressor parts
- 3-year ComfortLink control
- 1-year parts

COMFORTLINK CONTROLS - FEATURES

Features with optional ComfortLink controls:

- Communications (via stand-alone thermostat or sensor)
- Scrolling Marquee display
- Time schedule
- Reverse rotation protection for compressors
- Space temperature sensor capacity
- Service diagnostics, alarms, and alarm history
- Service run test capability
- Unit run time and compressor cycles history
- CO₂ sensor capability
- 3V™ (VVT®) Zoning Linkage

PERFORMANCE DATA

Unit Operating Weight _____ lb

Curb Weight _____ lb

Cooling

Gross Total Capacity: _____ Btuh
at Condenser Air Temperature _____ °F

Gross Sensible Capacity: _____ Btuh

Compressor Power Input: _____ kW

Indoor Entering db _____ °F wb _____ °F

Airflow _____ CFM External Static Pressure _____ in.wg

Indoor Fan Motor Size _____ Hp

Exhaust Fan Motor Size _____ Hp

Heating

Total Heating Capacity:

INPUT

Stage 1 _____ Btuh

Stage 2 _____ Btuh

OUTPUT

Stage 1 _____ kW

Stage 2 _____ kW

Thermal Efficiency State _____ %

ELECTRICAL DATA

Power Supply to Unit _____ Volts _____ Phase _____ Hz

Minimum Circuit Amps _____ Maximum Overcurrent Protection _____

SUBMITTAL DATA

Job Name _____

Architect _____

Engineer _____

Contractor _____

Unit Designation _____



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.

FACTORY-INSTALLED OPTIONS (FIOPs)

- ☐ RTU Open multi-protocol controller communicates to LON, MODBUS, BACNET and Johnson N2 protocols. Available with electrical mechanical controls only
- ☐ ComfortLink control system with standard cooling operation down to 0°F (-18°C)
OR
- ☐ Electrical Mechanical controls standard cooling operation down to 10°F (-12°C)
- ☐ Patented Humidi-MiZer® adaptive dehumidification system. Available with direct drive or belt drive indoor fan motors. (Not available on models with ComfortLink controls.)
- ☐ **Economizer with DRY BULB sensing and barometric relief.**
Standard Air Leak Dampers —
 - ☐ Models with W7220 controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements. EconoMi\$er X.
 - ☐ Models with RTU Open controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements. EconoMi\$er 2.
 - ☐ Models with ComfortLink controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements. EconoMi\$er 2.
- ☐ **Economizer with ENTHALPY sensing and barometric relief.**
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 - ☐ Models with ComfortLink controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements. EconoMi\$er 2.
- ☐ **Economizer with DRY BULB sensing and barometric relief.**
ULTRA LOW LEAK Air Dampers —
 - ☐ Models with W7220 controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements, has return, outside air and relief damper leakage that meets Title 24 (section 140.4 and ASHRAE 90.1) requirements - plus 5 year limited parts warranty. EconoMi\$er X.
 - ☐ Models with RTU Open controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements, has return, outside air and relief damper leakage that meets Title 24 (section 140.4 and ASHRAE 90.1) requirements - plus 5 year limited parts warranty. EconoMi\$er 2.
 - ☐ Models with ComfortLink controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements, has return, outside air and relief damper leakage that meets Title 24 (section 140.4 and ASHRAE 90.1) requirements - plus 5 year limited parts warranty. EconoMi\$er 2.

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- ☐ Through the base connectors for gas and electric conduit/piping
- ☐ Stainless steel gas heat exchanger (includes tubes, vestibule plate and collector box)
- ☐ Direct Drive (multi speed/torque) ECM indoor fan motor
OR
- ☐ Belt Drive Indoor Fan motor with Variable Frequency Drive (VFD) controller
- ☐ Non-fused disconnect
- ☐ HACR Breaker
- ☐ Powered 115-volt convenience outlet
- ☐ Non-powered 115-volt convenience outlet (except 575v)
- ☐ Return Air smoke detector
- ☐ Supply Air smoke detector
- ☐ CO₂ sensor
- ☐ Condenser hail guard - louvered style
- ☐ Special coating protection for evaporator and condenser coils
- ☐ Hinged access panels

OPTIONAL WARRANTIES

- ☐ Complete Unit Parts only up to 5 years
- ☐ Complete Unit Parts and Labor up to 5 years

Many other optional warranties are available. See the *Commercial Start-Up and Optional Extended Warranty Price* price pages for further information.

FIELD INSTALLED ACCESSORIES

☐ Economizer with DRY BULB sensing and barometric relief.

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- ☐ Power exhaust - prop fan design
- ☐ Roofcurb - 14 inch (356mm) tall
- ☐ Roofcurb - 24 inch (610mm) tall
- ☐ Thru-the-bottom connections-electrical only
- ☐ Thru-the-bottom connections-electrical and gas
- ☐ Condenser hail guard - louvered style
- ☐ Flue shield
- ☐ Flue discharge deflector
- ☐ Liquid propane (LP) conversion kit
- ☐ High altitude conversion kit
- ☐ Phase monitor (loss of phase/phase reversal)
- ☐ Time Guard II compressor anti-cycle protection
- ☐ Thermostats and Sensors

Economizer Sensors

- ☐ Single Dry bulb control
- ☐ Differential Dry bulb control
- ☐ Single enthalpy control
- ☐ Differential enthalpy control
- ☐ CO₂ - wall mounted
- ☐ CO₂ - duct mounted
- ☐ CO₂ - unit mounted

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [] ARE IN MILLIMETERS.

2. CENTER OF GRAVITY

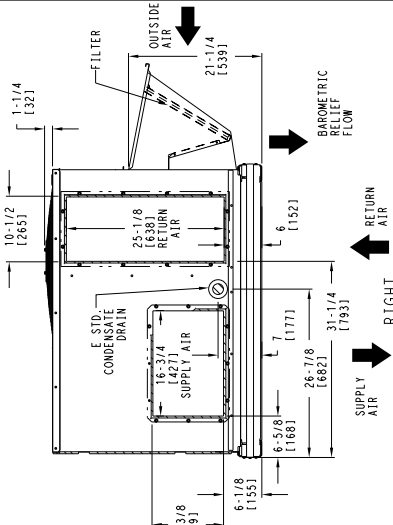
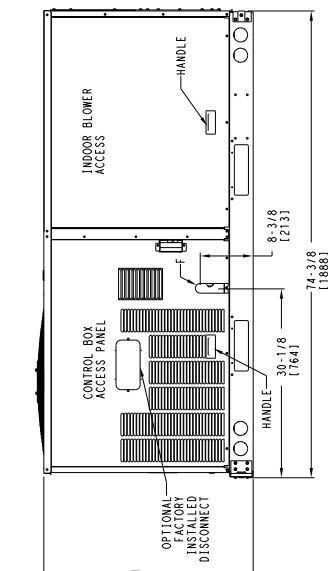
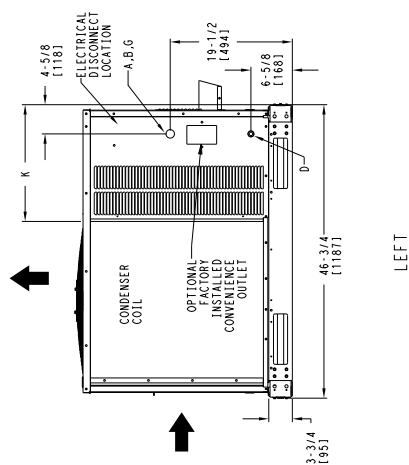
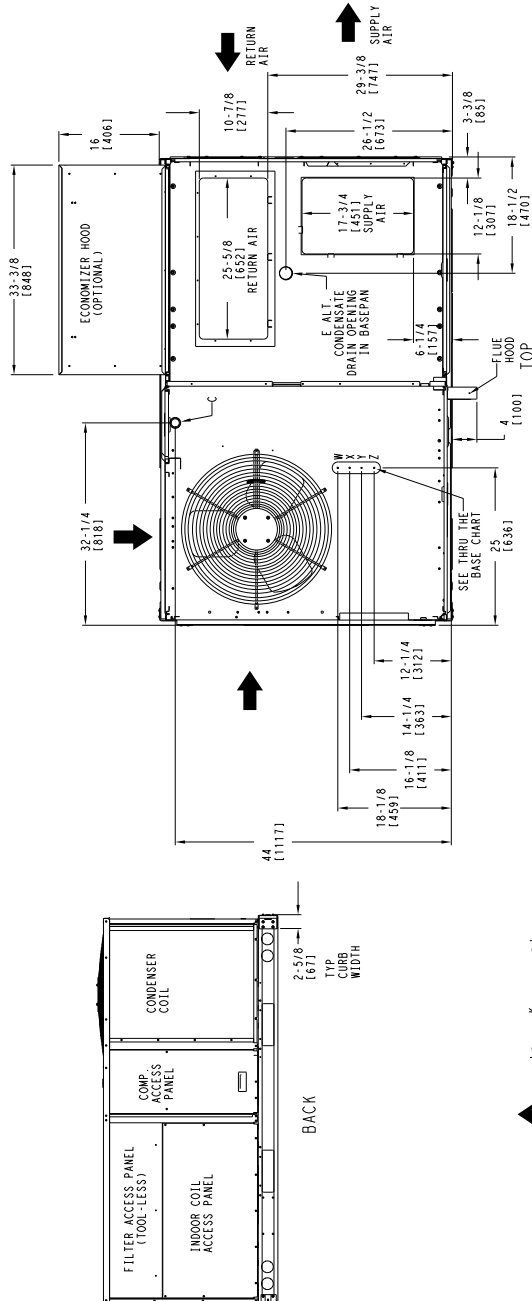
3. DIRECTION OF AIR FLOW

 UNITED TECHNOLOGIES STRACUSE, NY
P.O. BOX 4808
13221
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CONNECTION SIZES

	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 CRITERIA: R001.001 - 03.001				
	THREADED CONDUIT SIZE	WIRE SIZE	REQ'D HOLE SIZES (MAX.)	
W	1/2"	AWG.	3/8" - 1/2" (21)	
X	1/2"	24V	3/8" - 1/2" (21)	
Y	3/4" (001-003)	POWER	1/8" - 1/2" (26, 41)	
Z**	(003) 1/2" FPT	0-6S	1/316" (30, 01)	
				SELECT EITHER 3/4" OR 1/2"
				FOR POWER, DEPENDING ON THE SIZE
**				(001) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.



FRONT

SHEET	DATE	SUPERSERIES	REV
1 OF 2	12/19/11	-	-

CERTIFIED DIMENSION 48LC04-06



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UNIT	STD. WEIGHT	UNIT WEIGHT	CORNER WEIGHT (A)	CORNER WEIGHT (B)	CORNER WEIGHT (C)	CORNER WEIGHT (D)	C.G.	HE[HT]	
	LBS.	KG.	LBS.	KG.	LBS.	KG.	X Y	Z	
48LC-004	505	229	124	56	117	53	36 1/8 (918)	24 3/8 (619)	19 (483)
48LC-005	590	266	131	69	144	65	38 1/4 (961)	23 3/8 (594)	20 1/8 (511)
48LC-006	600	271	136	71	145	66	35 7/8 (911)	23 1/4 (591)	19 1/2 (495)

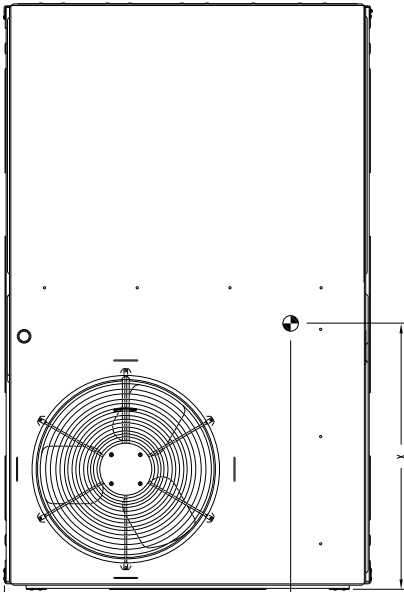
*- STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES REFER TO THE PRODUCT DATA CATALOG.

CORNER A

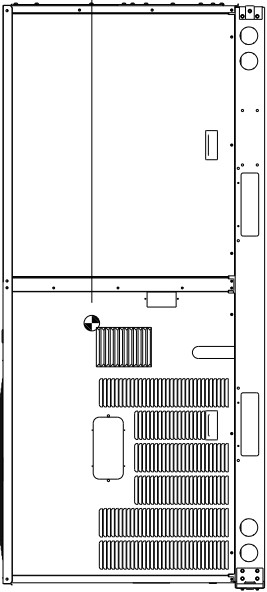
CORNER B

CORNER C

CORNER D



TOP



FRONT

SHEET
2 OF 2

DATE
12/19/11

SUPERCODES
-

48LC 04-06 SINGLE ZONE ELECTRICAL
COOLING WITH GAS HEAT

48HC500177

REV
-

C12213

48LC

7

