

50LC*B WeatherExpert® Series
Ultra High Efficient
Single Package Multi Zone VAV Rooftop
Cooling Only with Optional Electric Heat
Sizes: 07–12, with Puron® (R-410A) Refrigerant
6 – 10 Ton



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

50LC*B units are ultra-high efficiency, Multi-Zone Variable Air Volume (MZ-VAV) single-packaged electric cooling with optional electric heating units. Units utilize three stages of cooling capacity control with full activated evaporator coil for optimum part load performance and humidity removal. Indoor fan motors are high efficient belt drive with Variable Frequency Drive (VFD) speed control. Motor speed is controlled by the factory furnished duct static pressure

sensor. Outdoor fan motors are Direct Drive - ECM to further help part load performance. The VAV-RTU Open controller provides all unit operation and requires the use of Carrier Open VAV on all system air terminals for optimum integrated system solution. All units are factory tested in both heating and cooling modes and rated in accordance with AHRI Standards 340/360.

STANDARD FEATURES

Base Unit

- Puron® (R-410A) HFC refrigerant
- IEER's up to 21.0 with with EER's up to 13.7
- ASHRAE 90.1 compliant and Energy Star qualified
- Meets or exceeds CEE tier II performance criteria
- Rated in accordance with AHRI Standards 340/360
- Designed in accordance with Underwriters' Laboratories Std 1995. Listed by ETL
- VAV-RTU Open controller provides all unit operation and requires the use of Carrier Open VAV on all system air terminal units for that total system comfort solution.
- Supply air tempering
- Supply air sensor controls the cooling capacity sequencing and return air sensor is furnished for monitoring capabilities.
- Morning warm-up and occupied heating capabilities
- Duct static pressure sensor (provided for field installation)
- 3-stage cooling capacity control scroll compressor with crankcase heaters
- Proven Multi Staged Scroll compressors with internal line-break overload protection
- Single refrigerant circuit design with full face activated evaporator coil
- Belt drive high efficient indoor fan and pulley system with Variable Frequency Drive (VFD) controller
- High efficient ECM outdoor fan motor
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- Standard ambient cooling operation down to 45°F (7°C) with lower operation with integrated economizer. All units operate up to 125°F (52°C)
- Field convertible from vertical to horizontal airflow on all models. 08-12 models require an easy field installed supply duct kit.

- Two-inch disposable return air filters
- Provisions for thru-the-bottom power entry capability as standard
- Single point 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 82 dB

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
- Fully insulated cabinet with foil faced insulation

Refrigerant System

- Precision sized TXV refrigerant metering devices
- High capacity liquid line filter drier
- High performance internally enhanced copper tube, aluminum fin coils with optional corrosion resistant coils
- Evaporator freeze protection

Standard Limited Parts Warranty

- 5-year compressor parts
- 5-year electric heater
- 1-year parts

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 (Electric)

Total Heating Capacity:

INPUT

Stage 1 _____ Btuh

Stage 2 _____ Btuh

OUTPUT

Stage 1 _____ kW

Stage 2 _____ kW

Thermal Efficiency State _____ %

50LC*B

ELECTRICAL DATA

Power Supply to Unit _____ Volts _____ Phase _____ Hz

Minimum Circuit Amps _____ Maximum Overcurrent Protection _____

SUBMITTAL DATA

Job Name _____

Architect _____

Engineer _____

Contractor _____

Unit Designation _____



Intertek



Certified
to
ISO 9001



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.

**REQUIRED FACTORY-INSTALLED
OPTIONS (FIOPs)**

To provide high efficient operation and comfort control thought out unit operating range, an economizer is required on each unit.

- ☐ **Economizer with DRY BULB sensing and barometric relief.**
Standard Low Leak Dampers —
 - Models with VAV-RTU Open controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements. EconoMi\$er 2.
- ☐ **Economizer with ENTHALPY sensing and barometric relief.**
Standard Low Leak Dampers —
 - Models with VAV-RTU Open 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 VAV-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.
- ☐ **Economizer with ENTHALPY sensing and barometric relief.**
ULTRA LOW LEAK Air Dampers —
 - Models with VAV-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.

**FACTORY-INSTALLED OPTIONS
(FIOPs)**

- ☐ Electric heaters and single point kits
- ☐ Through the base connectors for electric conduit
- ☐ Fan motors and drives
- ☐ Non-fused disconnect
- ☐ HACR Breaker
- ☐ Powered 115-volt convenience outlet
- ☐ Non-powered 115-volt convenience outlet
- ☐ 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
- ☐ LTL packaging

OPTIONAL EXTENDED 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

- ☐ Display Kit for Variable Frequency Drive (VFD).
Allows additional set up and diagnostics of the VFD controller. Kit includes display and cable. Kit can be used on size 07 thru 26 LC units.
- ☐ Power exhaust - prop fan design
- ☐ Roofcurb - 14 inch (356mm) tall
- ☐ Roofcurb - 24 inch (610mm) tall
- ☐ Thru-the-bottom electrical connections
- ☐ Condenser hail guard - louvered style
- ☐ Electric heaters and single point kits
- ☐ Phase monitor (loss of phase/phase reversal)
- ☐ Disconnect switch bracket, 08-12 only

Economizer Sensors

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

ZONE TERMINALS AND SENSORS

Many Carrier zone terminal sensors and controller are available with capabilities of combining:

- Space temperature sensing
- Sensors with communication ports
- Sensors with CO₂ sensing
- Sensors with LCD display
- Sensors with local override and indicating light
- **i-Vu[®] Equipment Touch;** Carrier brand 4.3" color touch screen zone sensor and local user interface for a single Open (BACnet[®] MS/TP) equipment controller. Includes built-in temperature sensor.
- **i-Vu[®] System Touch;** Carrier brand 4.3" color touch screen user interface connects to a network of up to 60 Open (BACnet[®] MS/TP) equipment controllers. Includes built-in temperature sensor.

Carrier Zone Sensors

To provide optimum comfort control, Carrier's i-Vu VAV Zone single duct and fan terminals are required. These include:

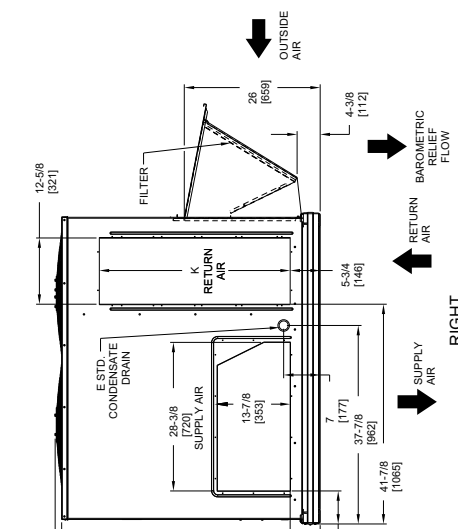
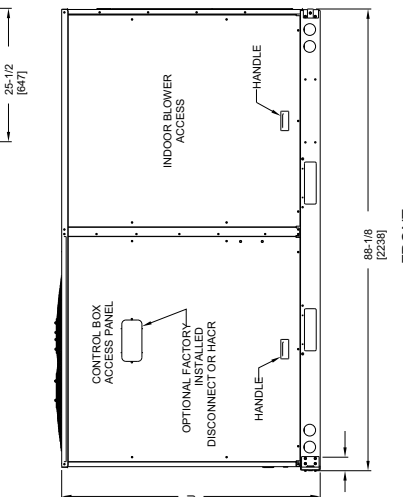
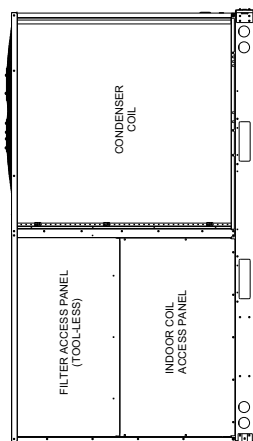
- 35E – Single Duct Air Terminals
- 45J – Series Fan Powered Air Terminals
- 45K – Quiet Series Fan Powered Air Terminals
- 45M – Parallel Fan Powered Air Terminals
- 45N – Quiet Parallel Fan Powered Air Terminals
- 45Q – Low Profile Series Fan Powered Air Terminals
- 45R – Low Profile Parallel Fan Powered Air Terminals
- 35J – Single Duct Retrofit Air Terminals

3. DIRECTION OF AIR FLOW

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS
DOES NOT CONSTITUTE PART PERFORMANCE OR
ACCEPTANCE OF CONTRACT.

THRU-THE-BASE CHART (FIOP)

OR "THRU-THE-BASEPAIN" FACTORY OPTION,
FITTINGS FOR ONLY X & Y ARE PROVIDED:
1/2" & (1) 1/4" ELECTRICAL FITTINGS.



REV A

CERTIFIED DIMENSION 50LC*B07

		P.O. BOX 4808 UNITED TECHNOLOGIES CARRIER SYRACUSE, NY 13221		THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION. IT IS TO BE USED ONLY FOR THE PURPOSES SPECIFIED HEREIN. NO OTHER USES ARE PERMITTED WITHOUT THE WRITTEN CONSENT OF CARRIER CORPORATION. SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.			
UNIT 50LC 07	OUTDOOR COIL TYPE RTPF	STD. UNIT WEIGHT***		C.G.			
		LBS.	967	439	211	96	
				CORNER WEIGHT (A)			
				LBS.	211	96	
				CORNER WEIGHT (B)			
				LBS.	191	87	
				CORNER WEIGHT (C)			
				LBS.	268	122	
				CORNER WEIGHT (D)			
				LBS.	297	135	
				X		Y	
				41 3/4 [1060]		24 3/4 [629]	
				Z		20 3/4 [527]	

CORNER A

CORNER B

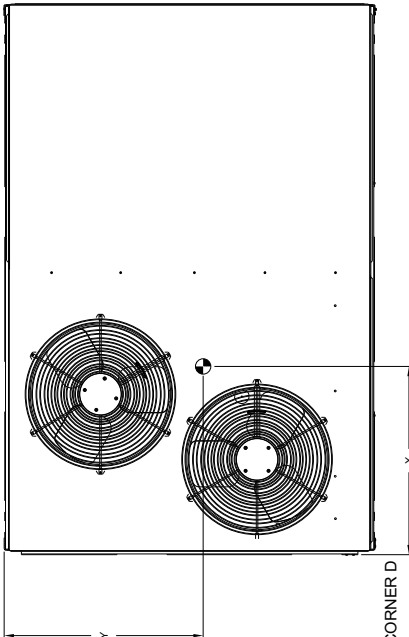
CORNER C

CORNER D

TOP

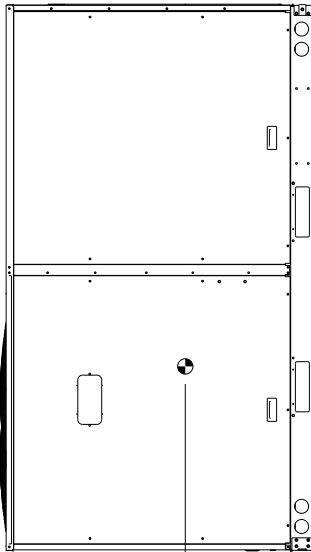
Y

X



FRONT

Z



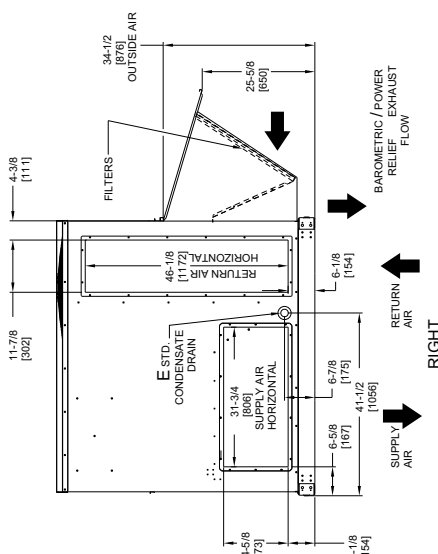
*** STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING. FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

SHEET 2 OF 2	DATE 05/08/13	SUPERCEDES -	50LC 07 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48LC500392	REV A
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C13315

50LC*B

3.  DIRECTION OF AIR FLOW



THRU-THE-BASE GIMBT THESE DIMENSIONS ARE FOR USE WITH PARTS SPECIFIED FOR USE CRBTMPV005A00, 006A00, 007A00				
ACCESSORY NO.	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZE (MAX.)	
005	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/4"	POWER	1 1/2" [38.1]
006	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/2"	POWER	2" [50.8]
007	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	2"	POWER	2 1/2" [63.5]

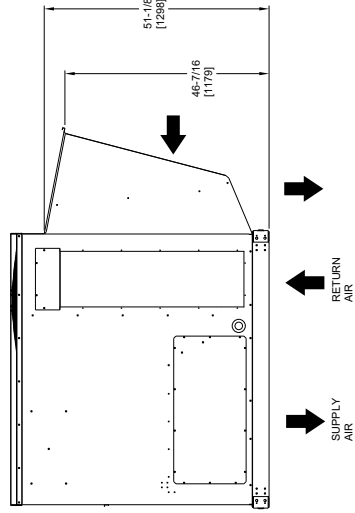
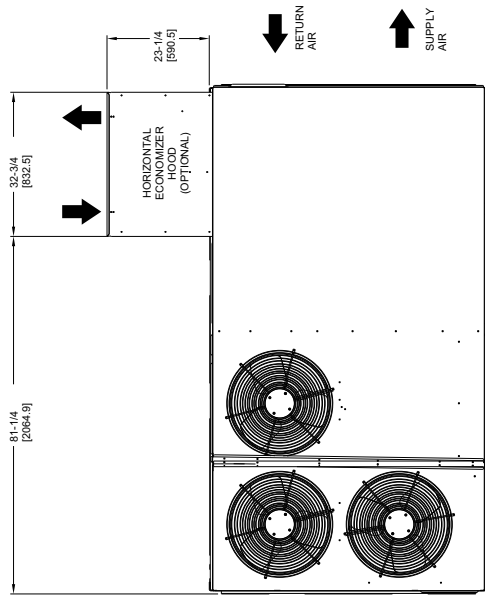
FOR "THRU-THE-BASE" FACTORY OPTION,
FITTING DIMENSIONS PROVIDED AS
SPECIFIED ON "006"

C13318

UNIT	STD UNIT WEIGHT	CORNER WEIGHT (A)	CORNER WEIGHT (B)	CORNER WEIGHT (C)	CORNER WEIGHT (D)	C.G.	UNITED TECHNOLOGIES CARRIER P.O. BOX 4898 SYCAMORE, IN 46211	THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS LOANED TO YOU. IT IS TO BE RETURNED TO CARRIER CORPORATION WITHIN 10 DAYS OF THE DATE OF RECEIPT. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.	SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE AN OFFER OF CONTRACT OR ASSURE PRICES OF CONTRACT.

UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50LC 08	1535	696	407	185	397	180	361	164	370	168	57 [1448]	33 [838]	20 5/8 [524]

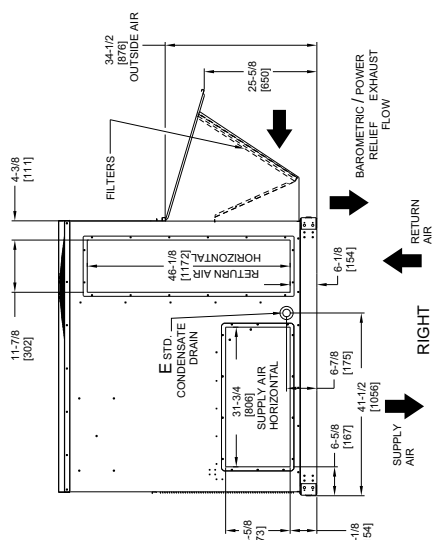
STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



SHEET	DATE	SUPERCEDES	REV
2 OF 2	05/08/13	-	A

50LC*B

3,  DIRECTION OF AIR FLOW



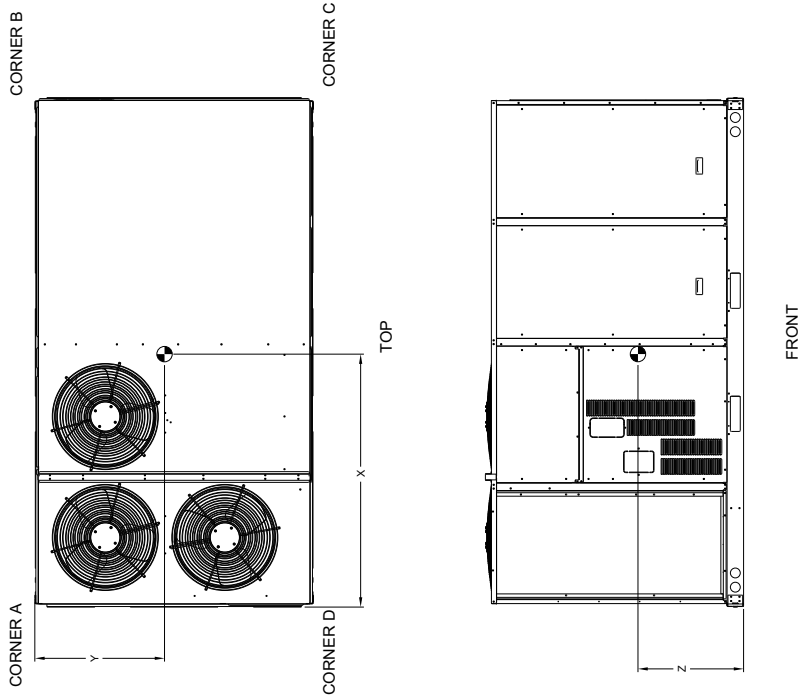
THRU-THE-BASE CHART THESE DIMENSIONS ARE FOR USE CRITICAL TO R69540, R6960, R70740				
ACCESSORY NO.	THREADED CONDUIT SIZE	WIRE USE	READ HOLE SIZES (MAX.)	
005	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/4"	POWER	1 1/2" [38.1]
006	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/2"	POWER	2" [50.8]
007	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	2"	POWER	2 1/2" [63.5]
FOR THRU-THE-BASE FACTORY OPTION, FITTINGS ARE PROVIDED AS SPECIFIED ON 006*				

SHEET	DATE	SUPERCIDES	REV
1 OF 2	05/08/13	-	A

CERTIFIED DIMENSION 50LC*B09-12

UNIT	STD UNIT WEIGHT	CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.					
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	
50LC 09	1536	697	388	174	392	178	390	172	374	171	38	1473		32 [812]	20 5/8 [524]
50LC 12	1536	697	388	174	392	178	390	172	374	171	58	1473		32 [812]	20 5/8 [524]

STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



HORIZONTAL ECONOMIZER

SHEET	DATE	SUPERCEDES	50LC 09-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48LC500389	REV
2 OF 2	05/08/13	-			A

C13321

50LC*B

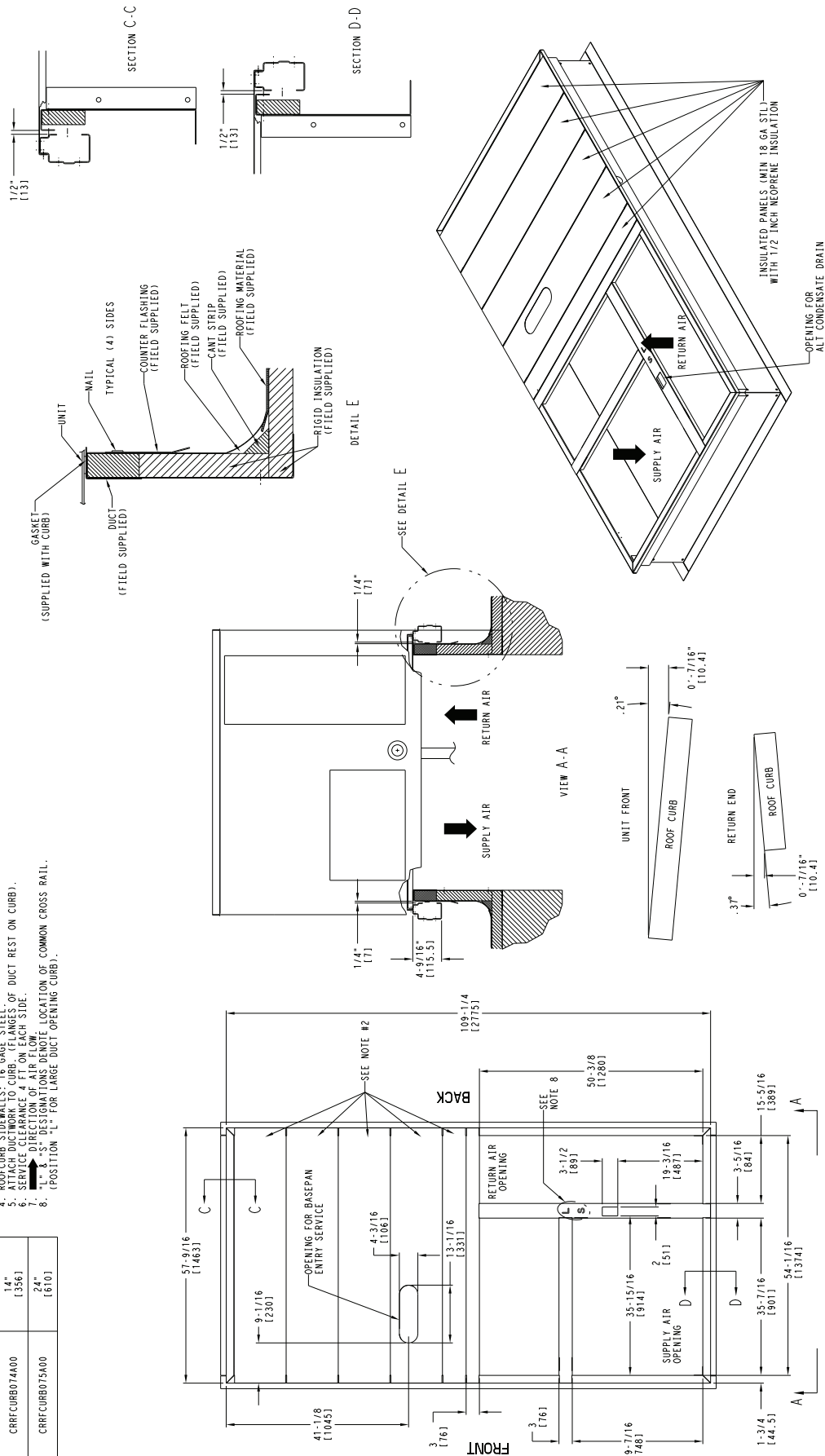
50LC*B

12

50LC*B

ROOF CURB ACCESSORY #	A
CRRFCURB074A00	14" [356]
CRRFCURB075A00	24" [610]

1. ROOT/CURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1/2" THK. WOLFRUM FOAM, 1.04 DENSITY.
3. DIMENSIONS IN "L" ARE IN MILLIMETERS.
4. DIMENSIONS IN "I" ARE IN INCHES.
5. ROOT/CURB SIDEWALLS: 16 GAGE STEEL.
6. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
7. SERVICE CLEARANCE 4 FT ON EACH SIDE.
8. DIRECTION OF AIR FLOW.
9. "1" & "S" DESIGNATIONS DENOTE LOCATION OF COMMON CROSS RAIL. (POSITION "L" FOR LARGE DUCT OPENING CURB).



MAX CURB LEVELING TOLERANCES

