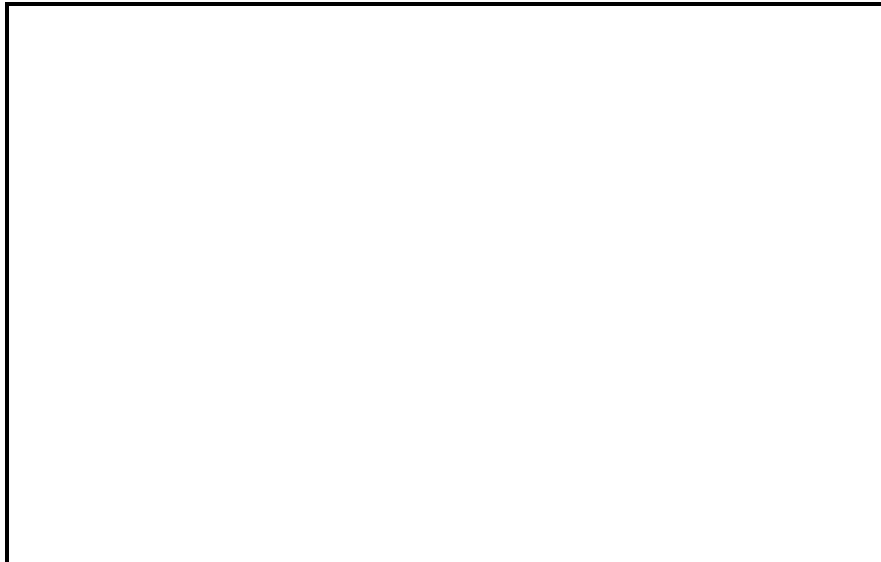


48LC*B WeatherExpert® Series
Ultra High Efficient
Single Package Multi Zone VAV Rooftop
Gas Heat/Electric Cooling Unit
Sizes: 14–26, with Puron® (R-410A) Refrigerant
12.5 – 23 Ton



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

48LC*B units are ultra-high efficiency, Multi-Zone Variable Air Volume (MZ-VAV) single-packaged electric cooling, gas 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 19.1 with EER's up to 12.5
- 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 a total system comfort solution.
- Supply air sensor controls the cooling capacity sequencing and return air sensor is furnished for monitoring capabilities
- Outdoor air temperature sensor
- Supply air tempering
- Morning warm-up and occupied heating capabilities
- Duct static pressure sensor (provided for field installation)
- 3-stage cooling capacity control 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)
- Dedicated vertical and horizontal airflow models available ordered as factory option. No special kits required.
- Two-inch disposable return air filters
- Provisions for thru-the-bottom power entry capability as standard

- 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 84 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

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
- 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
- Supply air tempering capabilities

Standard Limited Parts Warranty

- 15-year gas heat exchanger parts - Stainless Steel
- 10-year gas heat exchanger parts - Aluminized
- 5-year compressor parts
- 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

Total Heating Capacity:

INPUT

Stage 1 _____ Btuh

Stage 2 _____ Btuh

OUTPUT

Stage 1 _____ kW

Stage 2 _____ kW

Thermal Efficiency State _____ %

48LC*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 _____



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. EconoMiSer 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. EconoMiSer 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. EconoMiSer 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. EconoMiSer 2.

FACTORY-INSTALLED OPTIONS (FIOPs)

- ☐ Stainless steel gas heat exchanger (includes tubes, vestibule plate and collector box)
- ☐ 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
- ☐ Power Exhaust – Prop Design in lieu of barometric relief
- ☐ Fan motors and drives

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
- ☐ Adapter Curb (available for sizes 14-20 only)
- ☐ Condenser hail guard - louvered style
- ☐ Return Air smoke detector
- ☐ Supply Air smoke detector
- ☐ Flue discharge deflector
- ☐ Liquid propane (LP) conversion kit
- ☐ High altitude conversion kit
- ☐ Phase monitor (loss of phase/phase reversal)
- ☐ 4-Inch Filter Track upgrade kit

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.

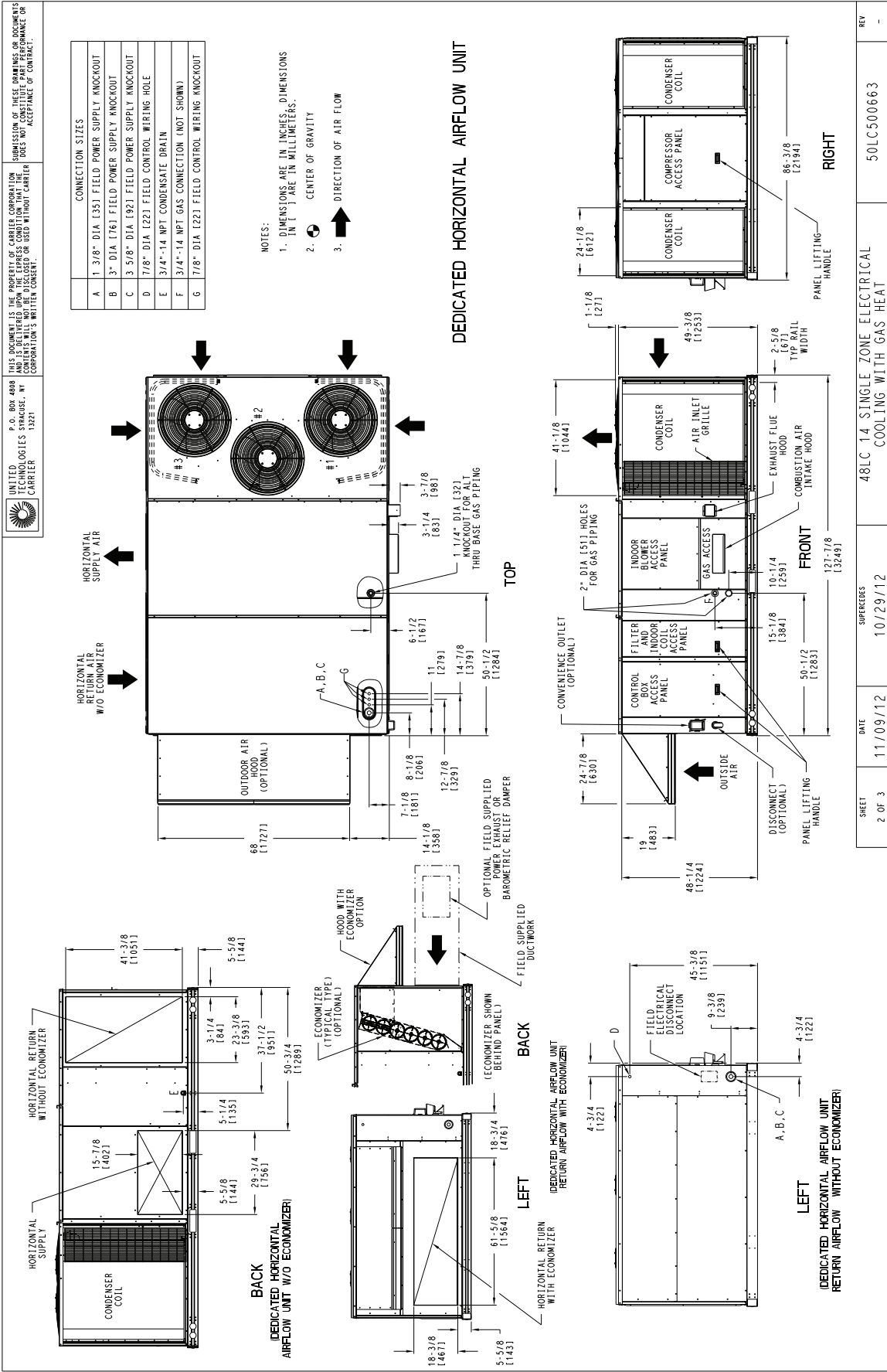
Carrier Zone Sensors

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



CERTIFIED DIMENSION 48LC*B14



CERTIFIED DIMENSION 48LC*B14

[illegible]

UNITED STATES CARBIDE CORPORATION
P.O. BOX 4888
NEW YORK, N.Y. 10108
1-212-512-1121

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CONNECTION SIZES

	CONNECTION SIZES
A	1 3/8" DIA [135] FIELD POWER SUPPLY KNOCKOUT
B	3" DIA [176] FIELD POWER SUPPLY KNOCKOUT
C	3 5/8" DIA [92] FIELD POWER SUPPLY KNOCKOUT
D	7/8" DIA [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	3/4"-14 NPT GAS CONNECTION (NOT SHOWN)
G	7/8" DIA [22] FIELD CONTROL WIRING KNOCKOUT

NOTES:
1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

DEDICATED VERTICAL AIRFLOW UNIT

TOP VIEW: Shows the top of the unit with dimensions: 53-3/4" [1365] (width), 25-1/2" [649] (depth), and 6-1/4" [157] (height). It includes labels for #1, #2, #3, and #4 condenser coils, a 61-5/8" [1564] outdoor air hood (optional), and a 68-1/8" [1730] outdoor air hood (optional). Arrows indicate the direction of air flow.

FRONT VIEW: Shows the front of the unit with dimensions: 54-7/8" [1393] (width), 24-7/8" [630] (height), and 141-1/2" [3595] (depth). It includes labels for the condenser coil, indoor blower access panel, gas access, control box and indoor access panel, filter and indoor access panel, convenience outlet (optional), 2" DIA [51] holes for gas piping, exhaust flue hood, combustion air intake hood, air inlet grille, and panel lifting handle. Arrows indicate the direction of air flow.

LEFT VIEW: Shows the left side of the unit with dimensions: 4-3/4" [122] (width), 9-3/8" [239] (height), and 4-3/4" [122] (depth). It includes labels for the field electrical disconnect location, A, B, C, and D access points, and power exhaust (optional). Arrows indicate the direction of air flow.

BACK VIEW: Shows the back of the unit with dimensions: 5-1/2" [138] (width), 37-1/2" [951] (height), and 5-1/2" [138] (depth). It includes labels for the economizer (typical type) (optional), barometric relief (optional), and power exhaust (optional). Arrows indicate the direction of air flow.

DETAILS: Includes a detail of the economizer (typical type) (optional) and a detail of the barometric relief (optional) with an economizer.

C13032



CERTIFIED DIMENSION 48LC*B17, 20

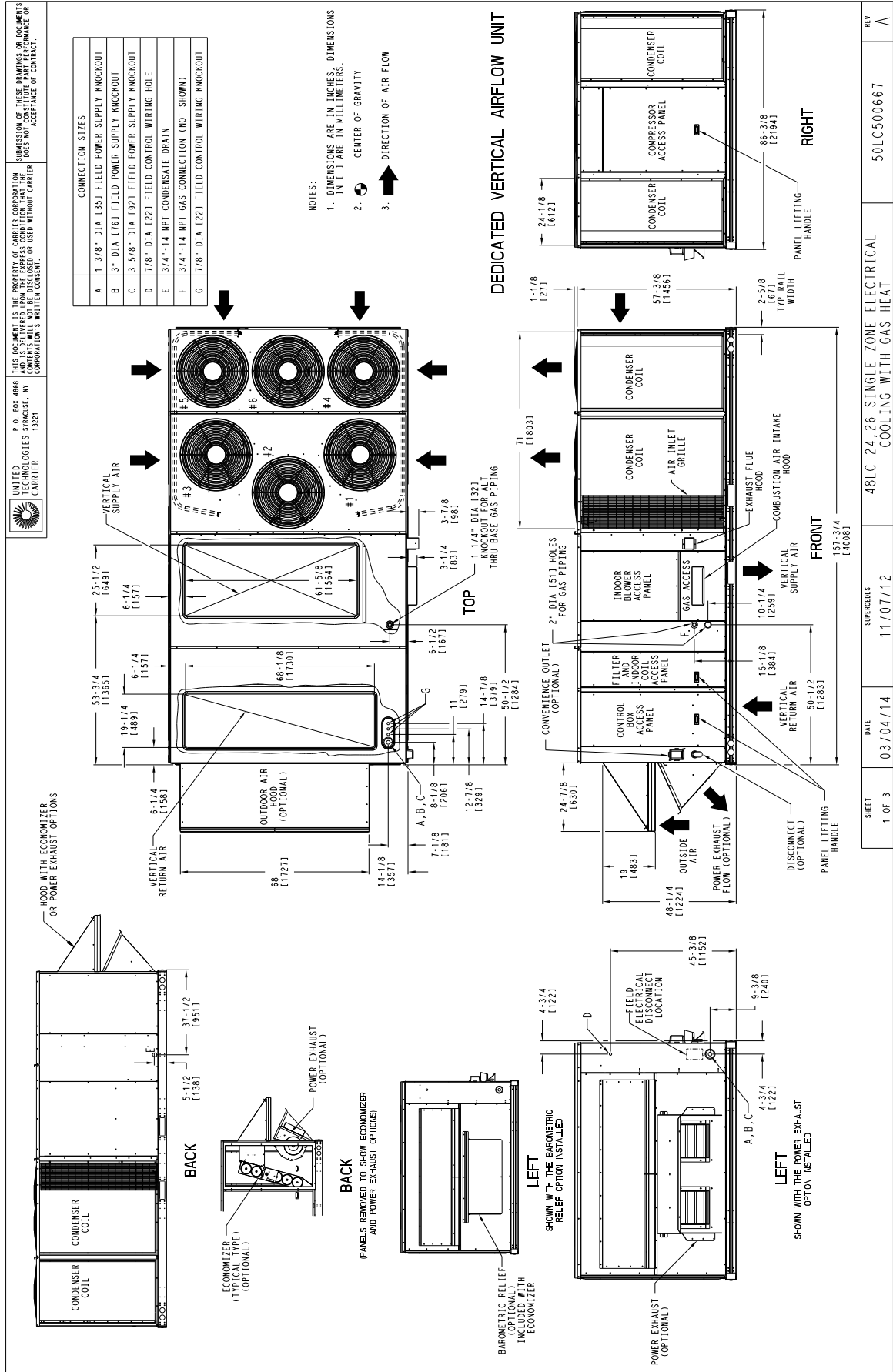
UNITED TECHNOLOGIES STRACUSE, NY 13221

CARRIER

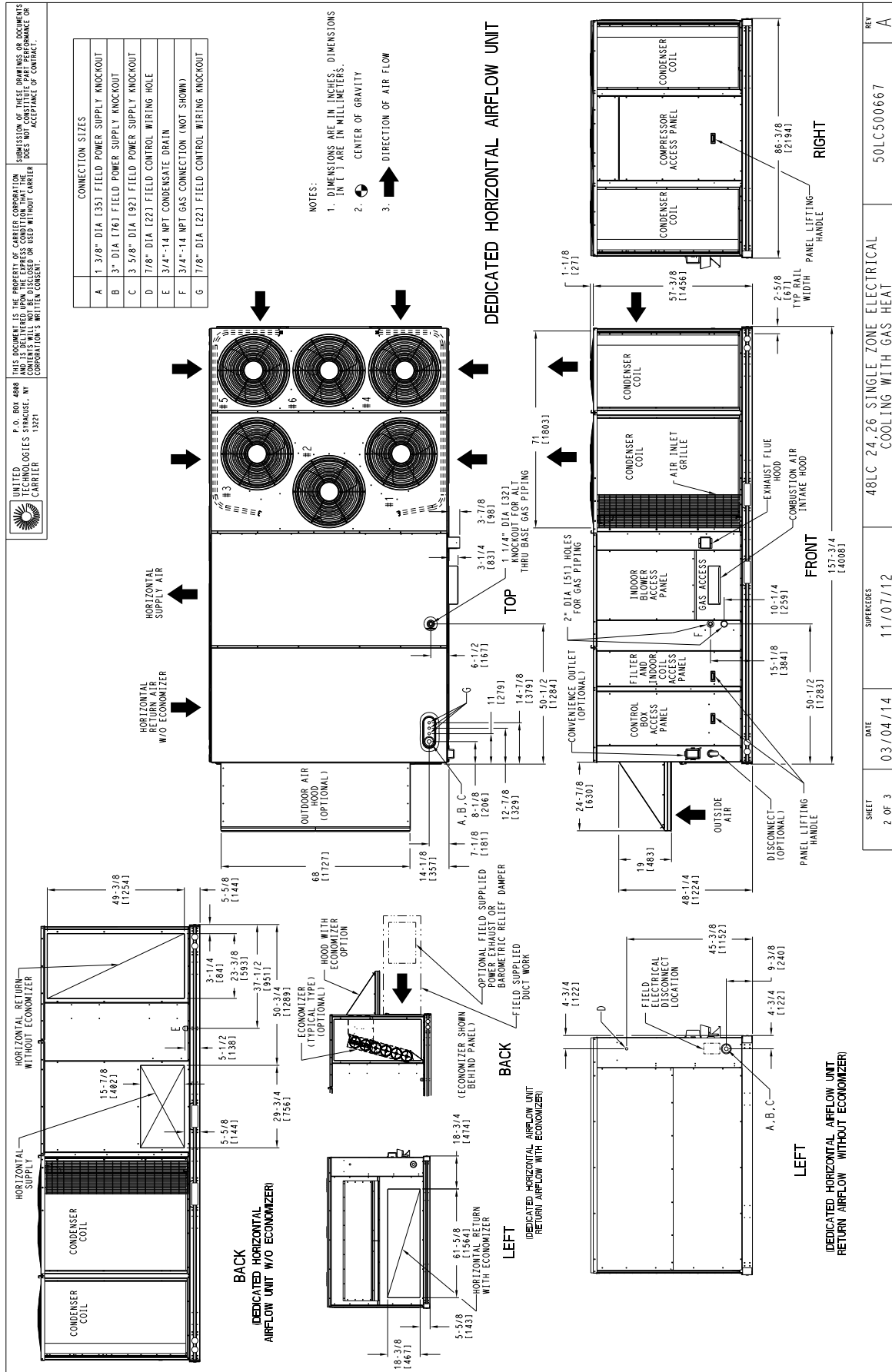
C13034

48LC*B

CERTIFIED DIMENSION 48LC*B24, 26



CERTIFIED DIMENSION 48LC*B24, 26



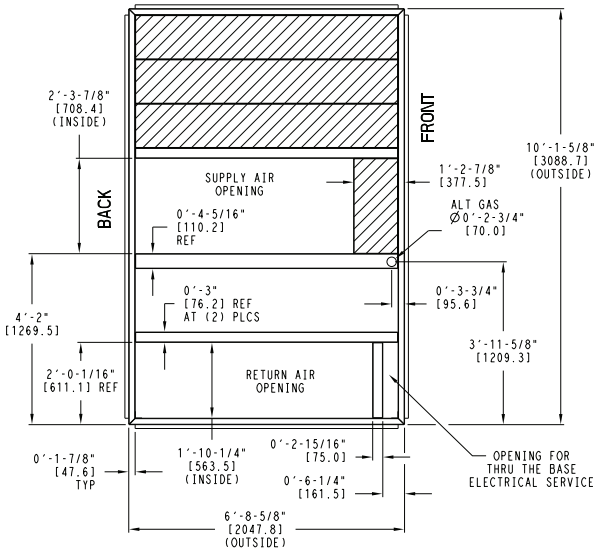
48LC*B

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

C14108

ROOF CURB DETAILS—SIZE 14 UNITS

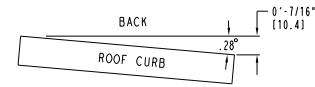
UNIT SIZE	"A"	ROOF CURB ACCESSORY
14	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB045A00 CRRFCURB046A00



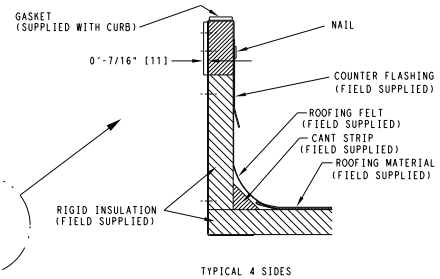
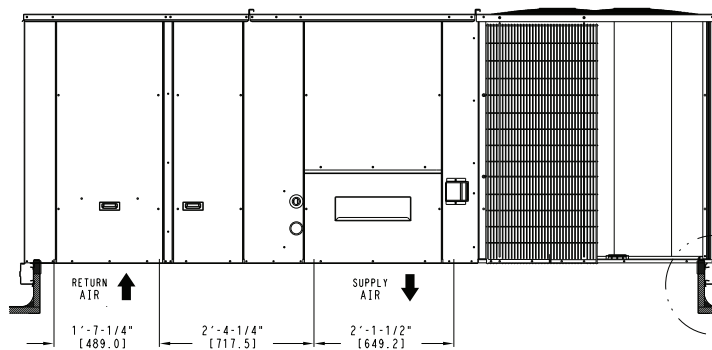
NOTES:

1. ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
2. DIMENSIONS IN [] ARE IN MILLIMETERS.
3. ROOF CURB GALVANIZED STEEL.
4. ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
5. SERVICE CLEARANCE 4 FT ON EACH SIDE

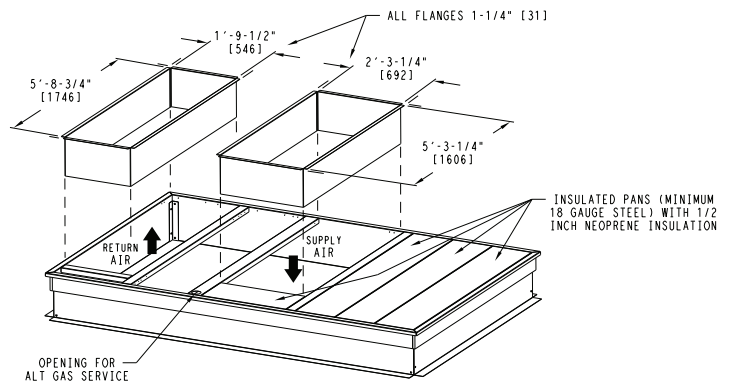
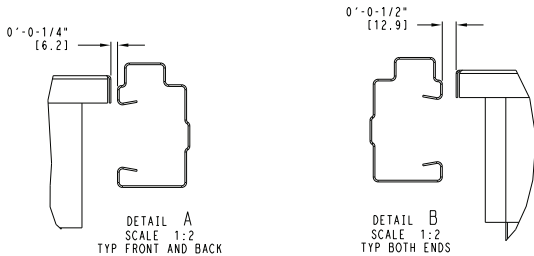
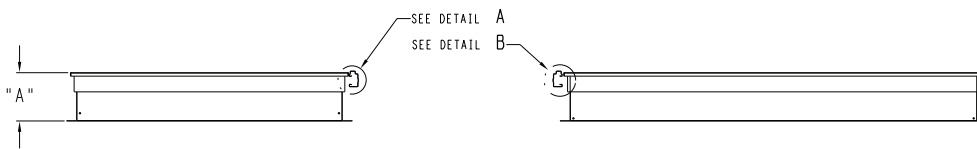
➔ DIRECTION OF AIR FLOW



MAX CURB LEVELING TOLERANCES



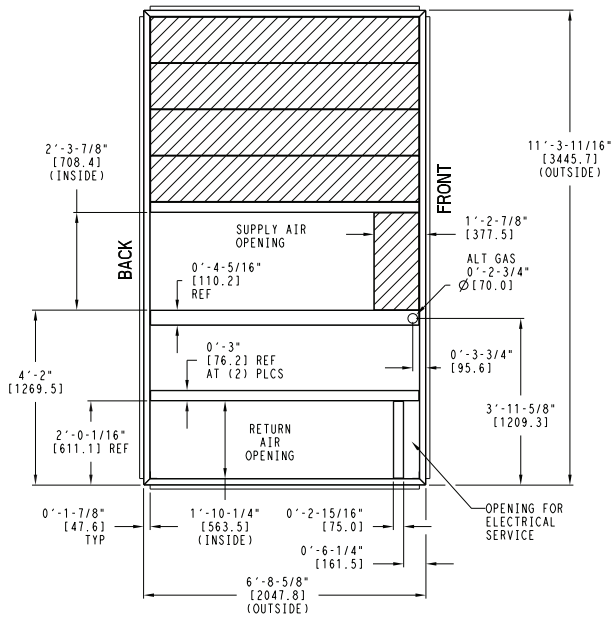
TYPICAL 4 SIDES



C13054

ROOF CURB DETAILS—SIZE 17, 20 UNITS

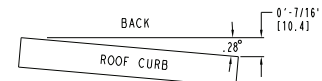
UNIT SIZE	"A"	ROOF CURB ACCESSORY
17, 20	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB047A00 CRRFCURB048A00



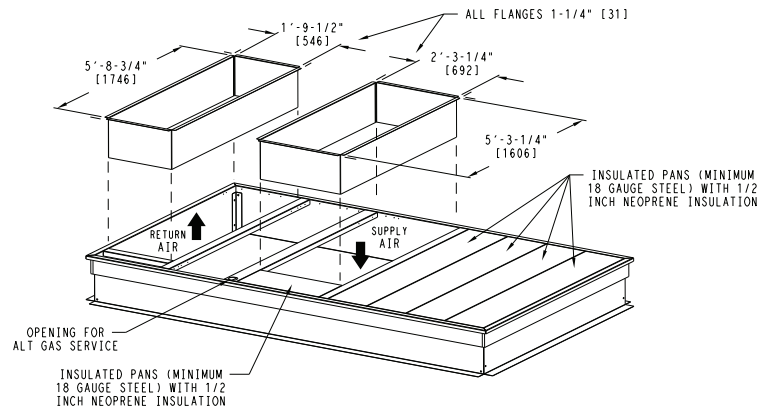
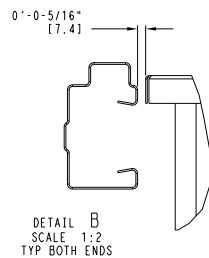
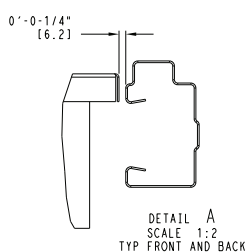
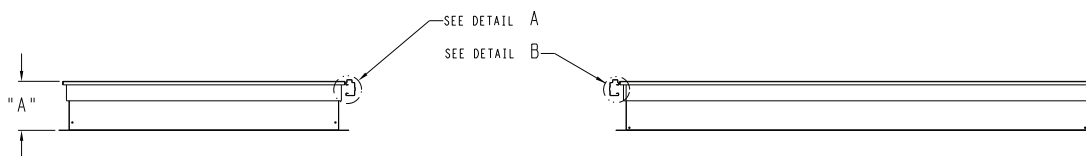
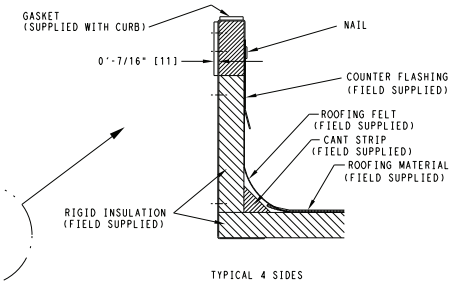
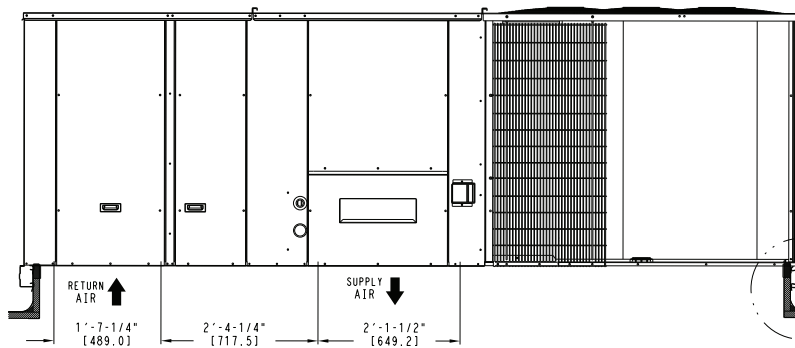
NOTES:

- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
- 2 DIMENSIONS IN () ARE IN MILLIMETERS.
- 3 ROOF CURB GALVANIZED STEEL.
- 4 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
- 5 SERVICE CLEARANCE 4 FT ON EACH SIDE

➔ DIRECTION OF AIR FLOW



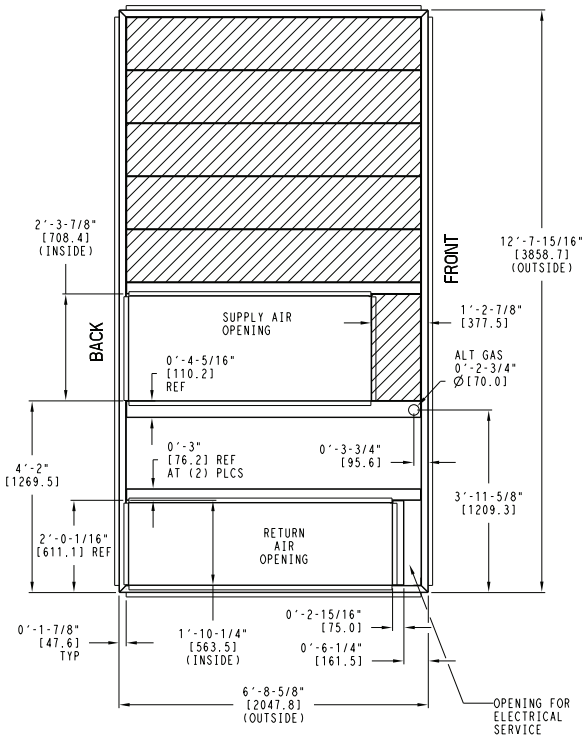
MAX CURB LEVELING TOLERANCES



C13055

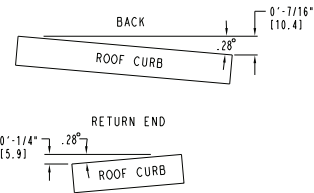
ROOF CURB DETAILS—SIZE 24, 26 UNITS

UNIT SIZE	"A"	ROOF CURB ACCESSORY
24, 26	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB049A00 CRRFCURB050A00

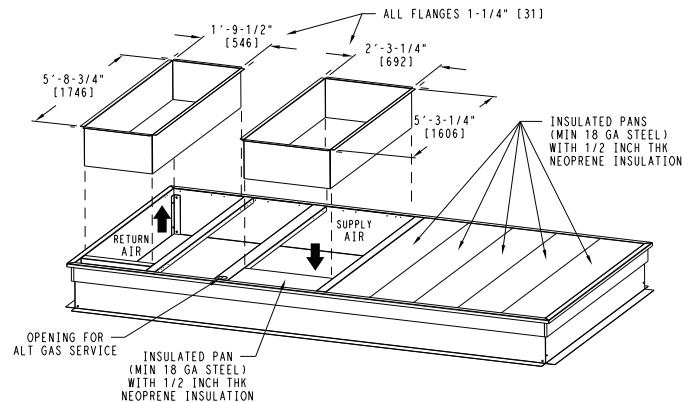
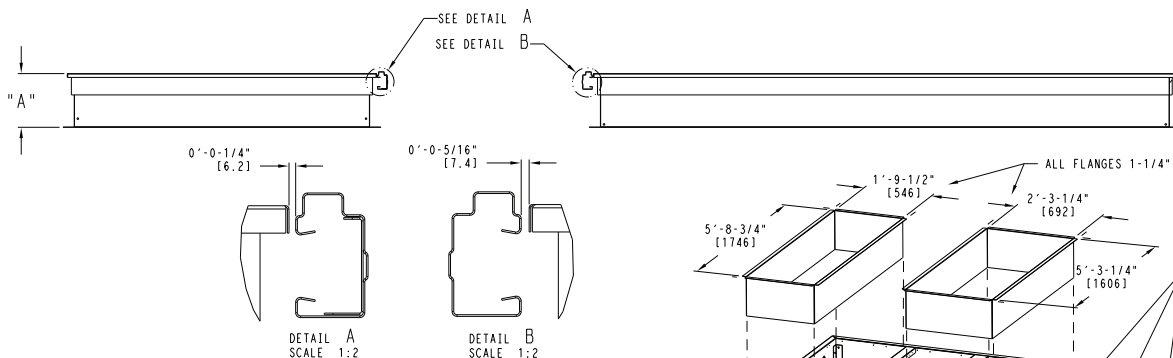
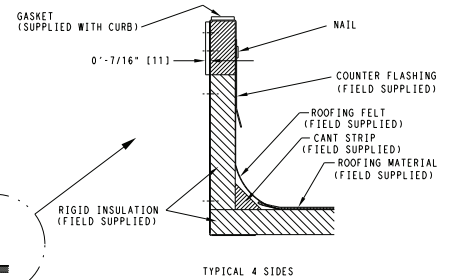
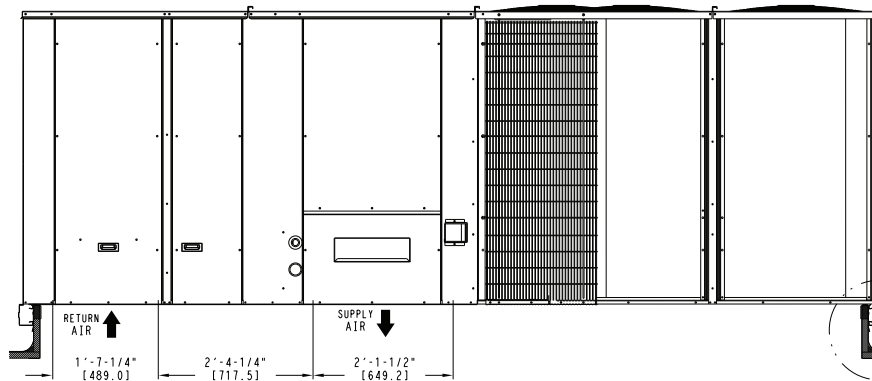


- NOTES:
- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
 - 2 BOLT HEADS TO BE ON INSIDE OF FLANGE. CLEARANCE IS [11] 0-0-7/16" TYP ALL CORNERS.
 - 3 DIMENSIONS IN [] ARE IN MILLIMETERS.
 - 4 ROOF CURB GALVANIZED STEEL.
 - 5 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
 - 6 SERVICE CLEARANCE 4 FT ON EACH SIDE
 - 7 GAS SERVICE PLATE IS PART OF A SEPARATELY SHIPPED ACCESSORY PACKAGE.
 - 8 GAS SERVICE PLATE CAN BE USED WITH EITHER ACCESSORY ROOFCURB.

➔ DIRECTION OF AIR FLOW



MAX CURB LEVELING TOLERANCES



C13056

48LC*B

