

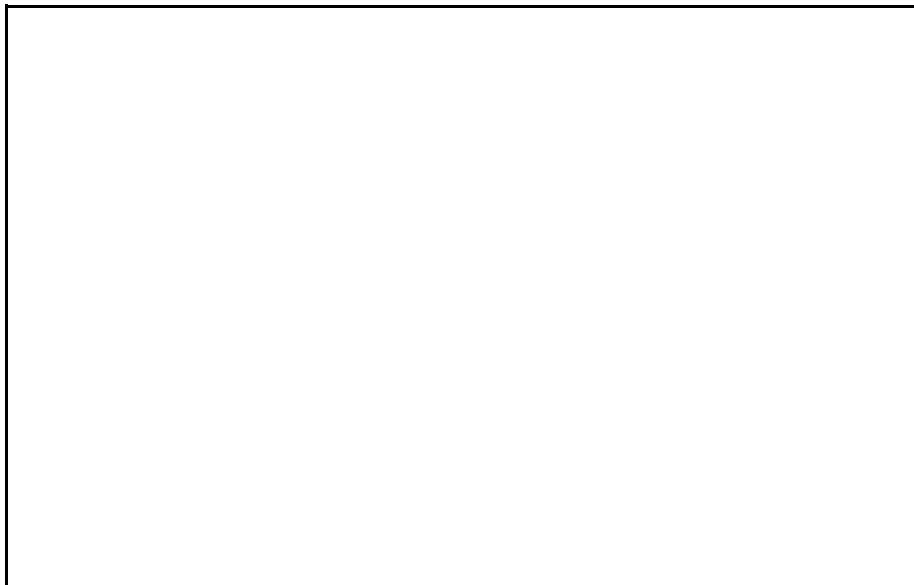


**50TC 17-30 WEATHERMAKER® SERIES  
SINGLE PACKAGE ROOFTOP, COOLING ONLY  
VERTICAL AIR FLOW UNITS WITH  
OPTIONAL ELECTRIC HEAT  
TWO STAGE COOLING CAPACITY CONTROL**

**— PERFORMANCE DATA**

**— CERTIFIED DIMENSION PRINTS**

**— CERTIFIED ROOF CURB DETAILS**



JOB NAME:	LOCATION:	
BUYER:	BUYER PO #:	CARRIER#:
UNIT NUMBER:	MODEL NUMBER:	
PERFORMANCE DATA CERTIFIED BY:		

## DESCRIPTION

50TC (model sizes 17-30) units are single-packaged dedicated vertical air flow electric cooling units (with field-installed electric heat) that are pre-wired and pre-charged with Puron® (R-410A) HFC refrigerant. The units are factory tested in both heating and cooling modes. These units meet the DOE-2018 (Department of Energy), ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1-2016 and IECC-2015 (International Energy Conservation Code) minimum efficiency requirements when equipped with the SAV™ (Staged Air Volume) option.

## FEATURES

### Standard Base Unit (United States Models)

- Puron (R-410A) HFC refrigerant
- EERs up to 11.0
- IEERs up to 12.9 (includes SAV)\*
- Rated in accordance with AHRI Standard 340/360
- Designed in accordance with Underwriters Laboratories Standard 1995
- Listed by ETL and ETL-Canada
- ASHRAE 90.1 energy compliant
- Two-stage cooling capacity control
- Non-corrosive composite sloping design; side or center drain condensate pan. Meets ASHRAE Standard 62
- Standard cooling operating range from 30°F up to 115°F (-1°C up to 46°C).
- Dedicated vertical airflow models. No special field kits required.
- Two-inch disposable return air filters
- Provisions for thru-the-bottom power entry capability as standard in an environmentally protected area.
- Single point electric connections
- 24-volt control circuit protected with resettable circuit breaker and 75-VA transformer
- Belt drive, constant torque, permanently lubricated evaporator-fan motor
- Blower bearing extended lubrication line on all sizes
- 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
- Central terminal board facilitating simple safety circuit troubleshooting and simplified control box arrangement
- High performance belt drive motor with variable pitch pulleys, quick adjust belt system and fan belt protection
- Staged Air Volume (SAV™) system utilizes a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor for 2 speed indoor fan motor control. Conforms to ASHRAE 90.1 2010 Standard – section 6.4.3.10.b.

### Standard Base Unit (Non-United States Models)

- All options listed above including:
  - EERs up to 11.0
  - IEERs up to 12.2 without SAV
  - IEERs up to 12.9 with SAV

### Cabinet (All)

- Access panels with easy grip handles
- Innovative, easy starting, no-strip screw feature on unit access panels
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- Fully insulated cabinet

### Refrigerant System (All)

- Acutrol™ refrigerant metering system
- Liquid line filter drier on each circuit
- Scroll compressors with internal line-break overload protection
- Copper tube, aluminum fin evaporator coil
- Round Tube/Plate Fin (RTPF) condenser coils on all model sizes or Novation® all aluminum condenser coils available on 17 to 28 sizes.

### Standard Warranty (All)

- 5-year standard on all compressor parts
- 5-year standard on all electric heater parts
- 5-year standard on all on Factory-Installed Ultra Low Leak economizer parts
- 1-year standard on all parts
- 3-year standard on all Novation condenser coil parts

\* 50TC-29 units are only available with a 2 speed option.

## 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)**  
Heating Capacity:  
Stage 1 \_\_\_\_\_ Btuh  
Stage 2 \_\_\_\_\_ Btuh  
Heating Capacity Total \_\_\_\_\_ Btuh  
Stage 1 \_\_\_\_\_ kW  
Stage 2 \_\_\_\_\_ kW  
Heating Capacity Total \_\_\_\_\_ Btuh

## ELECTRICAL DATA

Power Supply to Unit \_\_\_\_\_  
Volts \_\_\_\_\_  
Phase \_\_\_\_\_ Hz  
Maximum Circuit Amps \_\_\_\_\_  
Maximum Overcurrent Protection \_\_\_\_\_

## SUBMITTAL DATA

Job Name \_\_\_\_\_  
Architect \_\_\_\_\_  
Engineer \_\_\_\_\_  
Contractor \_\_\_\_\_  
Unit Designation \_\_\_\_\_



Puron®



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](http://www.ahridirectory.org).

## FACTORY-INSTALLED OPTIONS

### **Economizer with DRY BULB Sensing and Barometric Relief**

Low Leak Air Dampers —

- Models with W7212 controller provides standard non-diagnostic control (EconoMi\$er® IV system).
- Models with W7220 controller meet California Title 24-2016 (Section 120.2) for Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er X system).
- Models with RTU Open controller meet California Title 24-2016 (Section 120.2) Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er 2 system).
- Models with PremierLink™ controller. PremierLink controller does not meet California Title 24-2016 (Section 120.2) Fault Detection and Diagnostic (FDD) requirement (EconoMi\$er 2 system).

### **Economizer with ENTHALPY Sensing and Barometric Relief**

Low Leak Air Dampers —

- Models with W7212 controller provides standard non-diagnostic control (EconoMi\$er® IV system).
- Models with W7220 controller meet California Title 24-2016 (Section 120.2) Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er X system).
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### **Economizer with DRY BULB Sensing and Barometric Relief**

ULTRA LOW LEAK Air Dampers —

- Models with W7220 controller meet California Energy Commission Title 24-2016 perspective section 140.4 (damper leakage etc.), and mandatory section 120.2.i for Fault Detection and Diagnostic controls. Economizers meet ASHRAE 90.1-2016 damper leakage requirements as stated in section 6.5.1.1.4 and Table 6.4.3.4.3, and meet 2016 Fault Detection and Diagnosis requirements in section 6.4.3.12. For outside air, return, and relief air damper leakage requirements economizers meet IECC 2012 section C402.4.5.2 and, IECC 2015 sections C403.2.4.3 and C403.3.3.5 and IECC 2015 section C403.2.4.7 for Fault Detection and Diagnostic requirements.

NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately.

Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi\$er X system).

- Models with RTU Open meet California Energy Commission Title 24-2016 perspective section

140.4 (damper leakage etc.) and mandatory section 120.2.i for Fault Detection and Diagnostic requirements. Economizers meet ASHRAE 90.1-2016 damper leakage requirements as stated in section 6.5.1.1.4 and Table 6.4.3.4.3, and meet 2016 Fault Detection and Diagnosis requirements in section 6.4.3.12. Economizers meet IECC 2012 section C402.4.5.2 and, IECC 2015 sections C403.2.4.3 and C403.3.3.5 for outside air, return air, and relief air damper leakage requirements and IECC 2015 section C403.2.4.7 for Fault Detection and Diagnostic requirements.

NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately.

Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi\$er 2 system).

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NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately.

Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi\$er 2 system).

## FACTORY-INSTALLED OPTIONS (CONT)

### Standard Base Unit (United States Models)

- RTU Open multi-protocol controller communicates to BACnet\*, Modbus†, LonWorks\*\*, and Johnson N2 protocols.
- CCN Direct Digital Control (DDC) - Premier-Link††
- Two-position motorized outdoor air damper (not available with SAV™ (Staged Air Volume) 2 speed fan models)††
- 25% Manual outdoor air damper††
- Humidi-MiZer® adaptive dehumidification system available for sizes 17 – 28. Unit must be equipped with RTPF condenser coils.
- Non-fused disconnect
- Powered 115-volt convenience outlet
- Non-powered 115-volt convenience outlet
- Power exhaust - centrifugal fan design
- Medium and high static motor options

- Return air smoke detector

- Supply air smoke detector

- CO<sub>2</sub> sensor

- Condenser hail guard - louvered style

- Special coating protection for evaporator and condenser coils

- Hinged access panels

- Condensate overflow Switch

### Standard Base Unit (Non-United States Models)

- Staged Air Volume (SAV™) 2-speed fan system

### **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 pages for further information.

\* BACnet is a registered trademark of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers).

† Modbus is a registered trademark of Schneider Electric.

\*\* LonWorks is a registered trademark of Echelon Corporation.

†† Not compatible with SAV (2 speed indoor fan models).

## FIELD-INSTALLED ACCESSORIES

### Economizer with DRY BULB Sensing and Barometric Relief

Low Leak Air Dampers —

- Models with W7212 controller provides standard non-diagnostic control. EconoMi\$er® IV.
- Models with W7220 controller meets California Title 24-2016 Section 120.2.i for Fault Detection and Diagnostic (FDD) requirements. EconoMi\$er X.
- Models with RTU Open controller meets California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er 2 system).
- Models with PremierLink™ controller. PremierLink controller does not meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirement (EconoMi\$er 2 system).

### Economizer with ENTHALPY Sensing and Barometric Relief

Low Leak Air Dampers —

- Models with W7212 controller provides standard non-diagnostic control. EconoMi\$er IV.
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- Models with RTU Open controller meets California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er 2 system).
- Models with PremierLink controller. PremierLink controller does not meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirement (EconoMi\$er 2 system).

### Economizer with DRY BULB Sensing and Barometric Relief

ULTRA LOW LEAK Air Dampers —

- Models with W7220 controller meet California Energy Commission Title 24-2016 perspective section 140.4 (damper leakage etc.), and mandatory section 120.2.i for Fault Detection and Diagnostic controls. Economizers meet ASHRAE 90.1-2016 damper leakage requirements as stated in section 6.5.1.1.4 and Table 6.4.3.4.3, and meet 2016 Fault Detection and Diagnosis requirements in section 6.4.3.12. For outside air, return, and relief air damper leakage requirements economizers meet IECC 2012 section C402.4.5.2 and, IECC 2015 sections C403.2.4.3 and C403.3.3.5 and IECC 2015 section C403.2.4.7 for Fault Detection and Diagnostic requirements.

NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately.

Outside air, return air, and relief air (volume) dampers are AMCA rated (EconoMi\$er X system).

- Models with RTU Open meet California Energy Commission Title 24-2016 perspective section 140.4 (damper leakage etc.) and mandatory section 120.2.i for Fault Detection and Diagnostic requirements. Economizers meet ASHRAE 90.1-2016 damper leakage requirements as stated in section 6.5.1.1.4 and Table 6.4.3.4.3, and meet 2016 Fault Detection and Diagnosis requirements in section 6.4.3.12. Economizers meet IECC 2012 section C402.4.5.2 and, IECC 2015 sections C403.2.4.3 and C403.3.3.5 for outside air, return air, and relief air damper leakage requirements and IECC 2015 section C403.2.4.7 for Fault Detection and Diagnostic requirements.

NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately.

Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi\$er 2 system).

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Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi\$er 2 system).

## FIELD-INSTALLED ACCESSORIES (CONT)

- Display Kit for Variable Frequency Drive (VFD), Staged Air Volume System. Allows additional set up and diagnostics of the unit VFD controller. Can be unit mounted or used with any other compatible VFD model as a reusable device.
- Electric heater(s)
- Single point kit
- Power exhaust - centrifugal fan design
- Two-position motorized outdoor air damper\*
- 25% Manual outdoor air damper\*
- Roof curb - 14 inch (356mm) tall
- Roof curb - 24 inch (610mm) tall
- Adapter Curb (for sizes 17-28 only) - Adapts to Carrier DP/DR, TJ, HJ, TM, PG roof curbs
- Condenser hail guard - louvered style
- Phase monitor (loss of phase/phase reversal)
- Winter start kit, down to 25°F (-4°C)
- Low ambient head pressure controller, down to -20°F (-29°C)
- Time Guard II compressor anti-cycle protection
- Four inch filter tracks
- Return Air smoke detector
- Supply Air smoke detector
- Thermostats and Sensors
- Non-powered 115-volt (20 amp) convenience outlet
- Horn/Strobe annunciator

### Economizer Sensors

- Single dry bulb control
- Differential dry bulb control
- Single enthalpy control
- Differential enthalpy control
- CO<sub>2</sub> — wall mounted
- CO<sub>2</sub> — duct mounted
- CO<sub>2</sub> — unit mounted

\* Not available with SAV (2-speed fan models).

# CERTIFIED DIMENSION PRINT

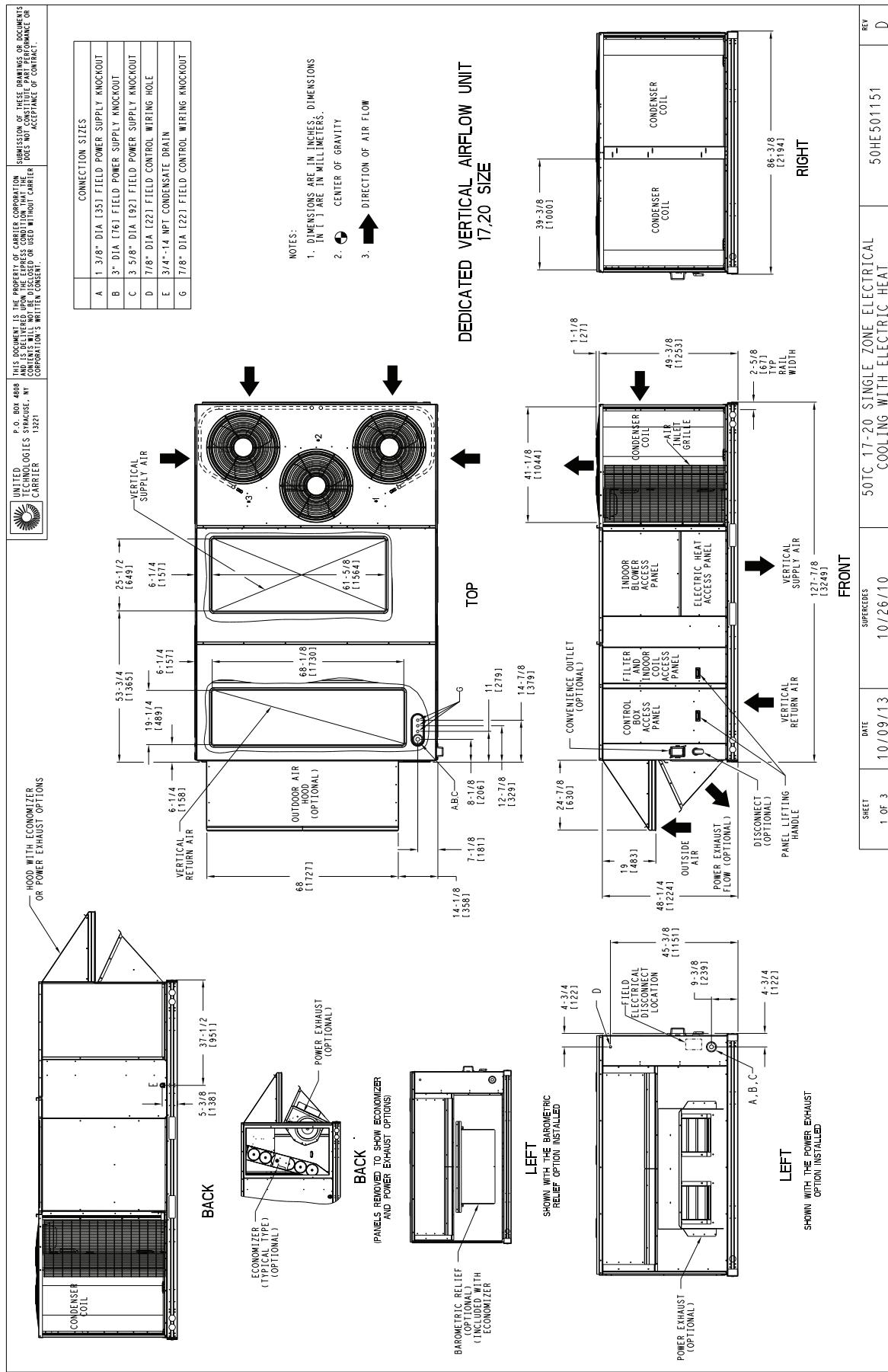
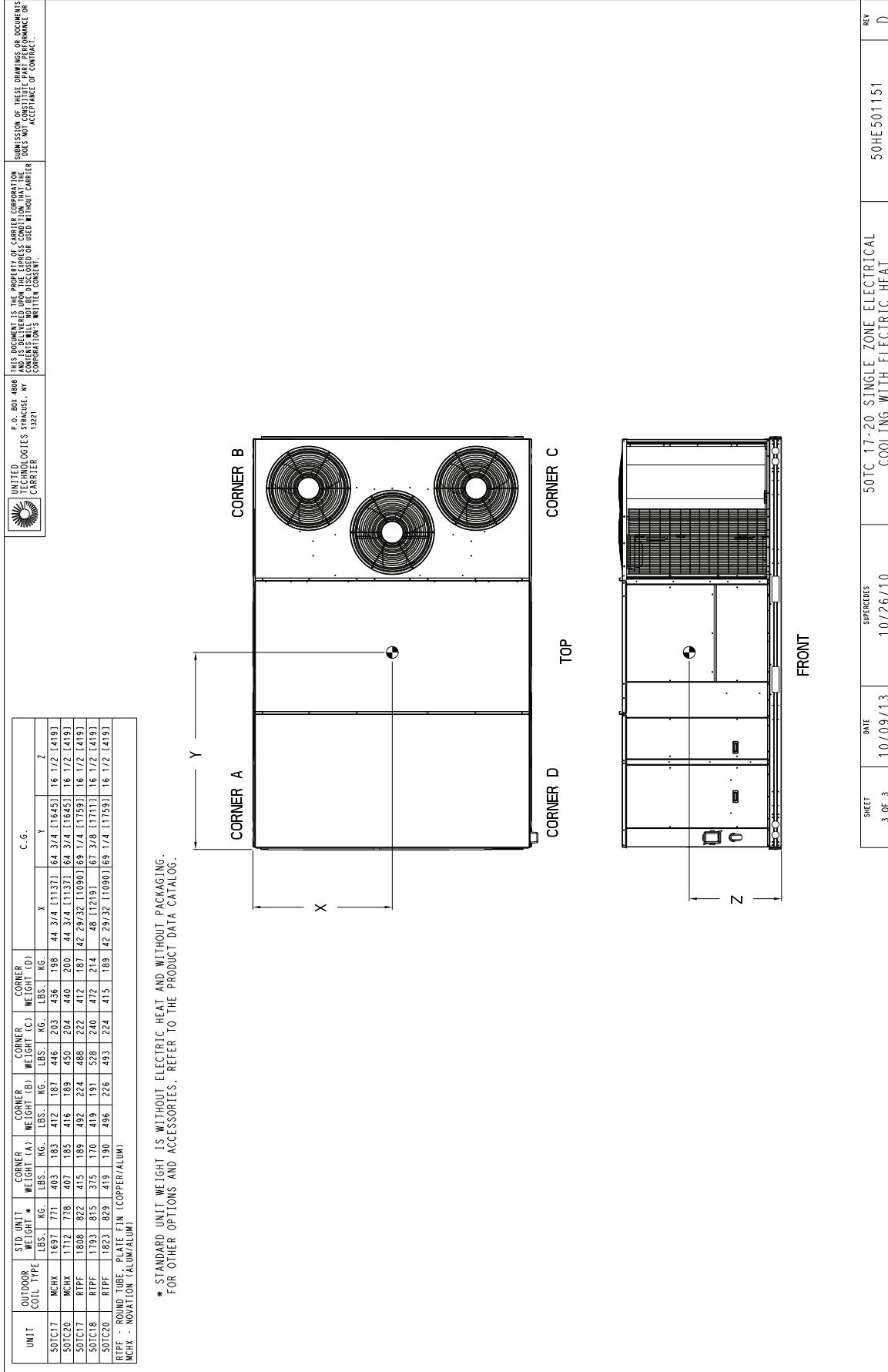


Fig. 1 — 50TC\*\*17 and 20 Dimensional Drawing

# CERTIFIED DIMENSION PRINT



**Fig. 2 — 50TC\*17 and 20 Corner Weights**

# CERTIFIED DIMENSION PRINT

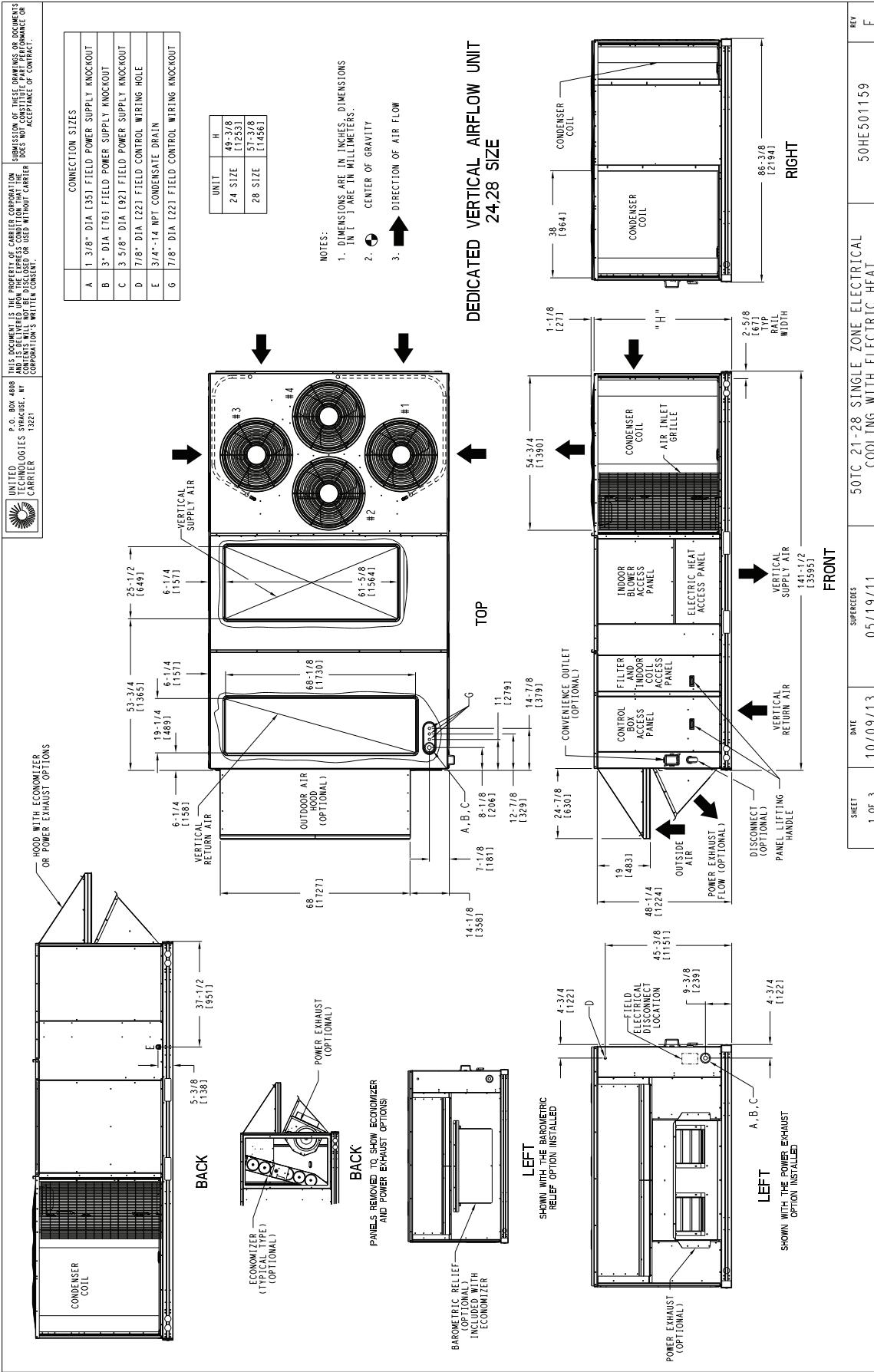
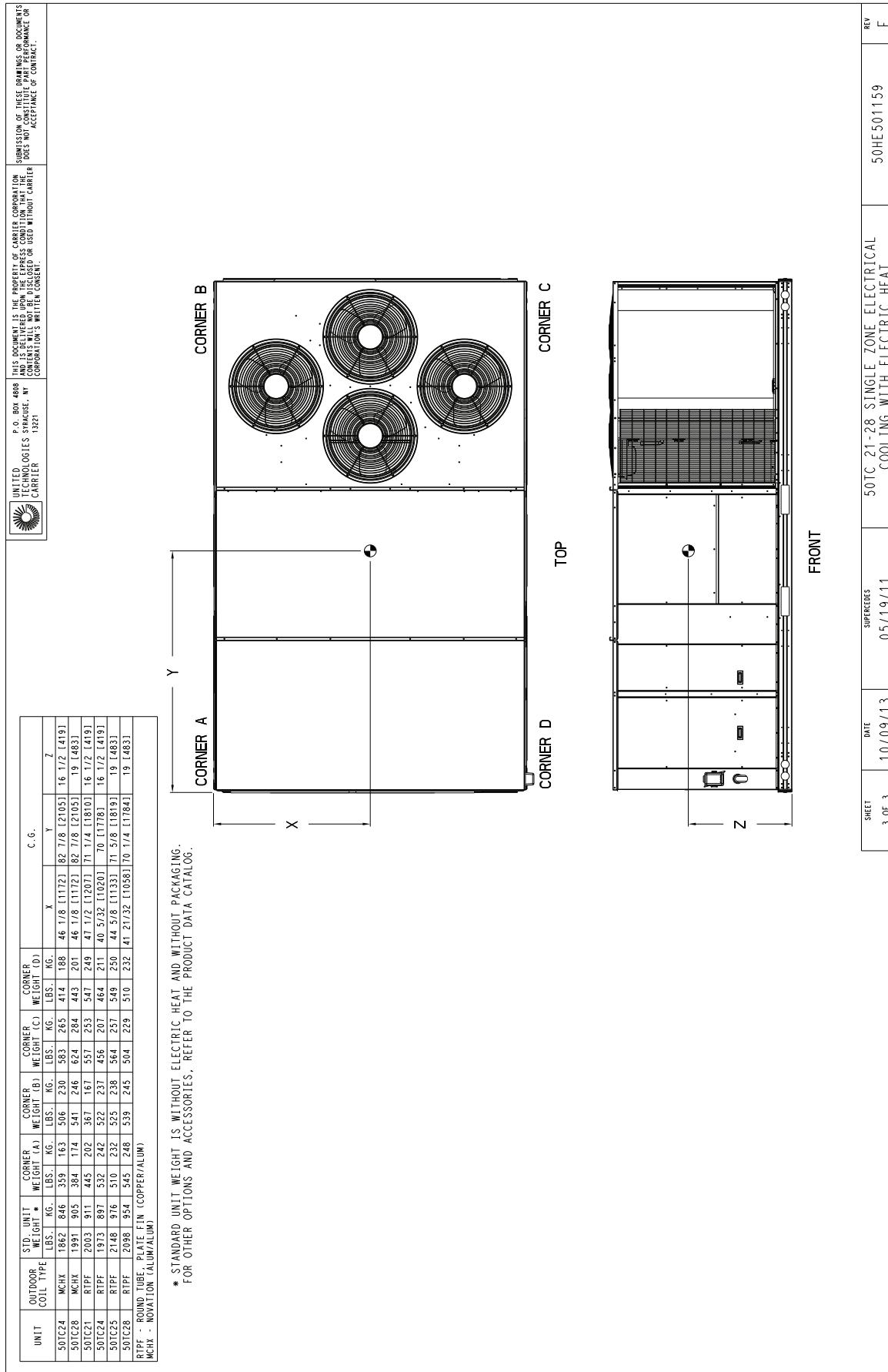


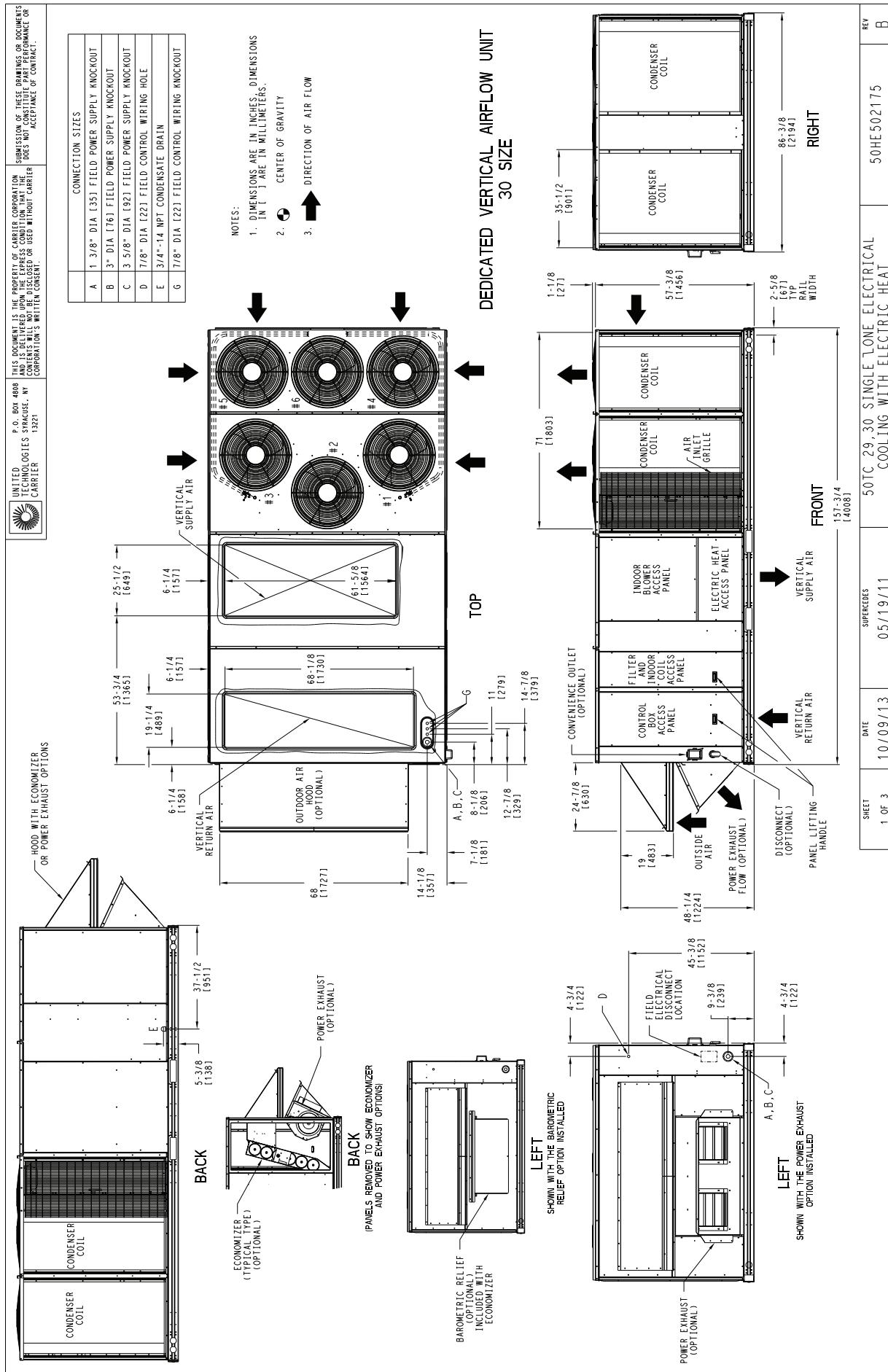
Fig. 3 — 50TC\*\*24 and 28 Dimensional Drawing

# CERTIFIED DIMENSION PRINT



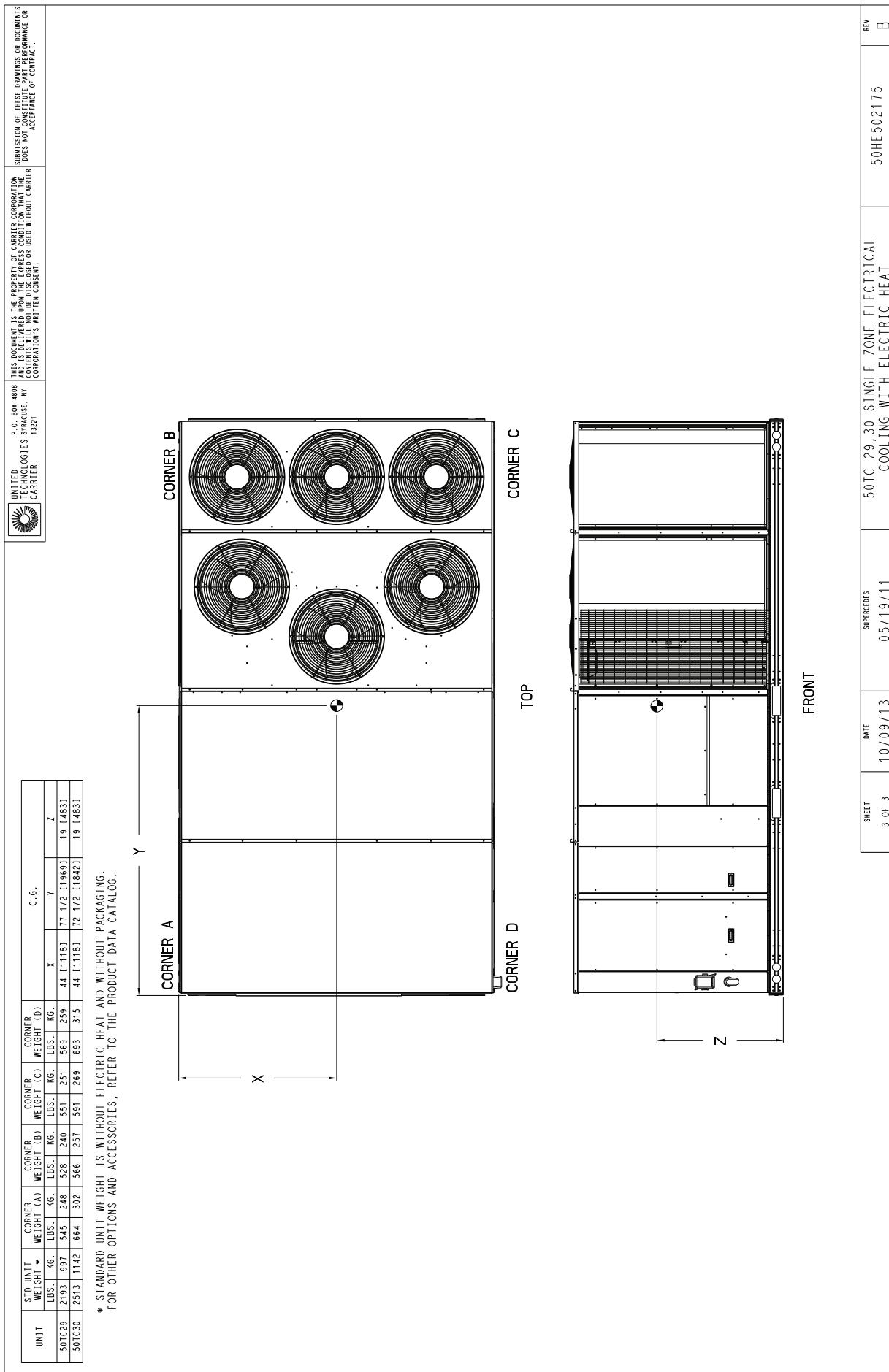
**Fig. 4 — 50TC\*\*24 and 28 Corner Weights**

# CERTIFIED DIMENSION PRINT



**Fig. 5 — 50TC\*\*30 Dimensional Drawing**

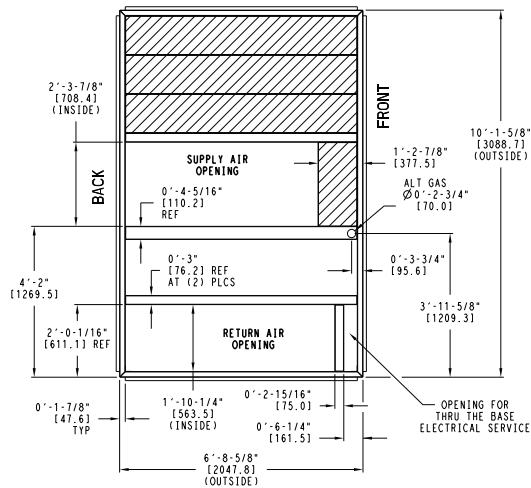
## CERTIFIED DIMENSION PRINT



**Fig. 6 — 50TC\*\*30 Corner Weights**

# CERTIFIED ROOF CURB DETAILS

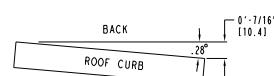
UNIT SIZE	"A"	ROOF CURB ACCESSORY
17,20	1'-2" [356.0] 2'-0" [610.0]	CRRCURB045A00 CRRCURB046A00



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

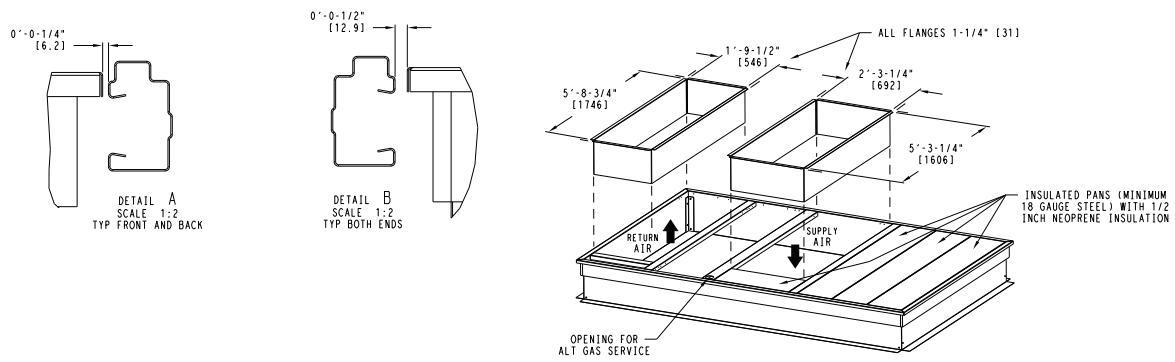
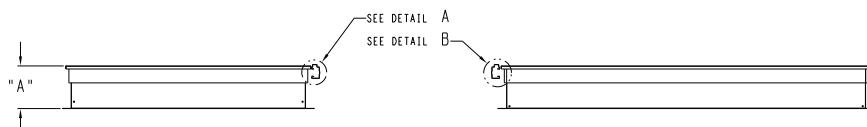
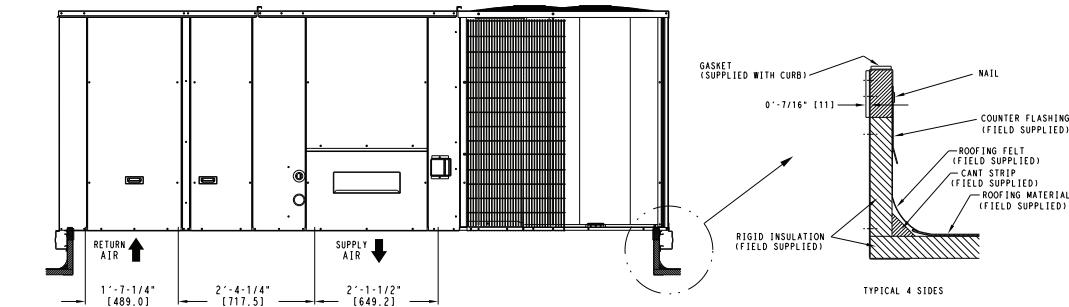


Fig. 7 — 50TC\*\*17 and 20 Roof Curb Details

# CERTIFIED ROOF CURB DETAILS

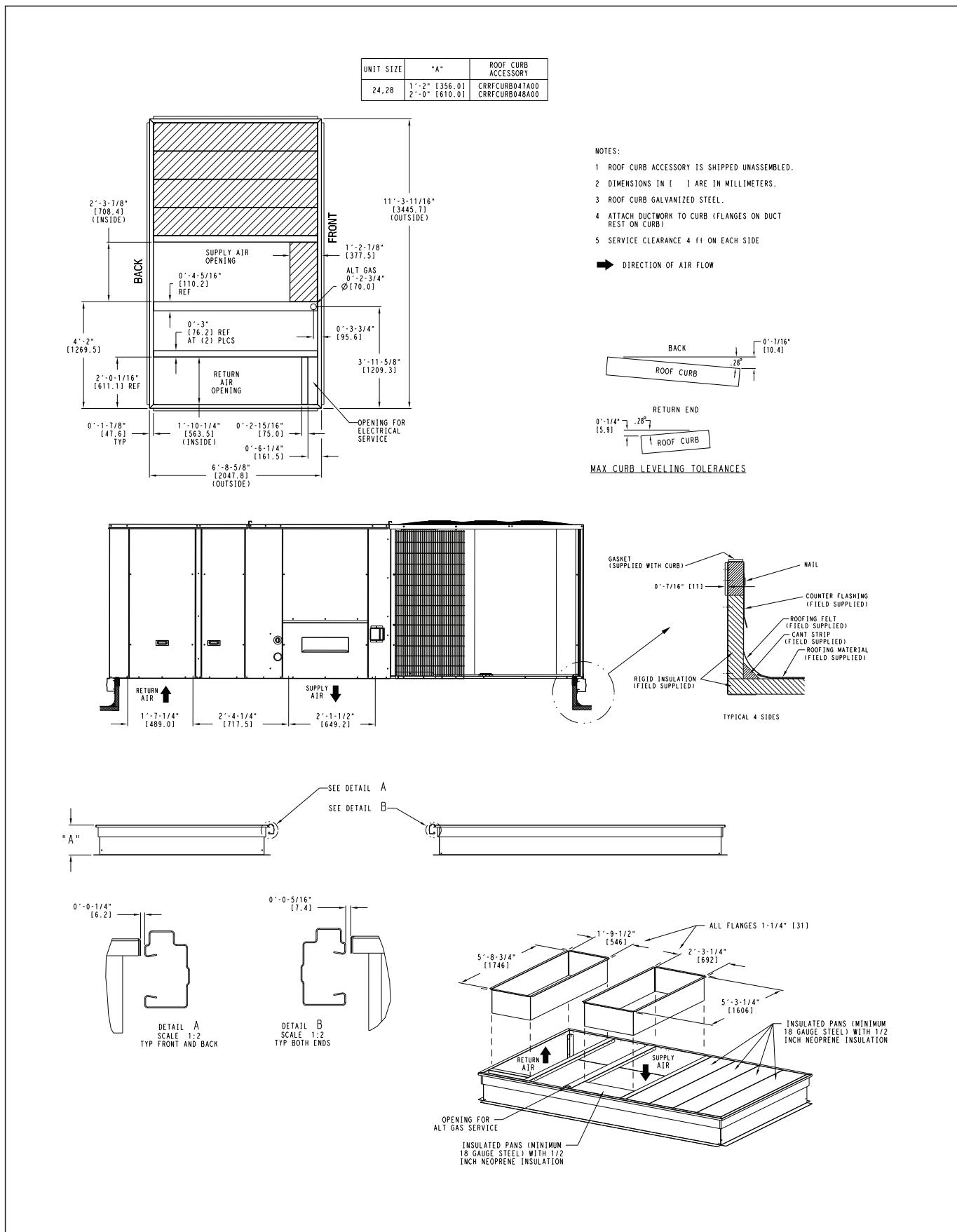


Fig. 8 — 50TC\*\*24 and 28 Roof Curb Details

# CERTIFIED ROOF CURB DETAILS

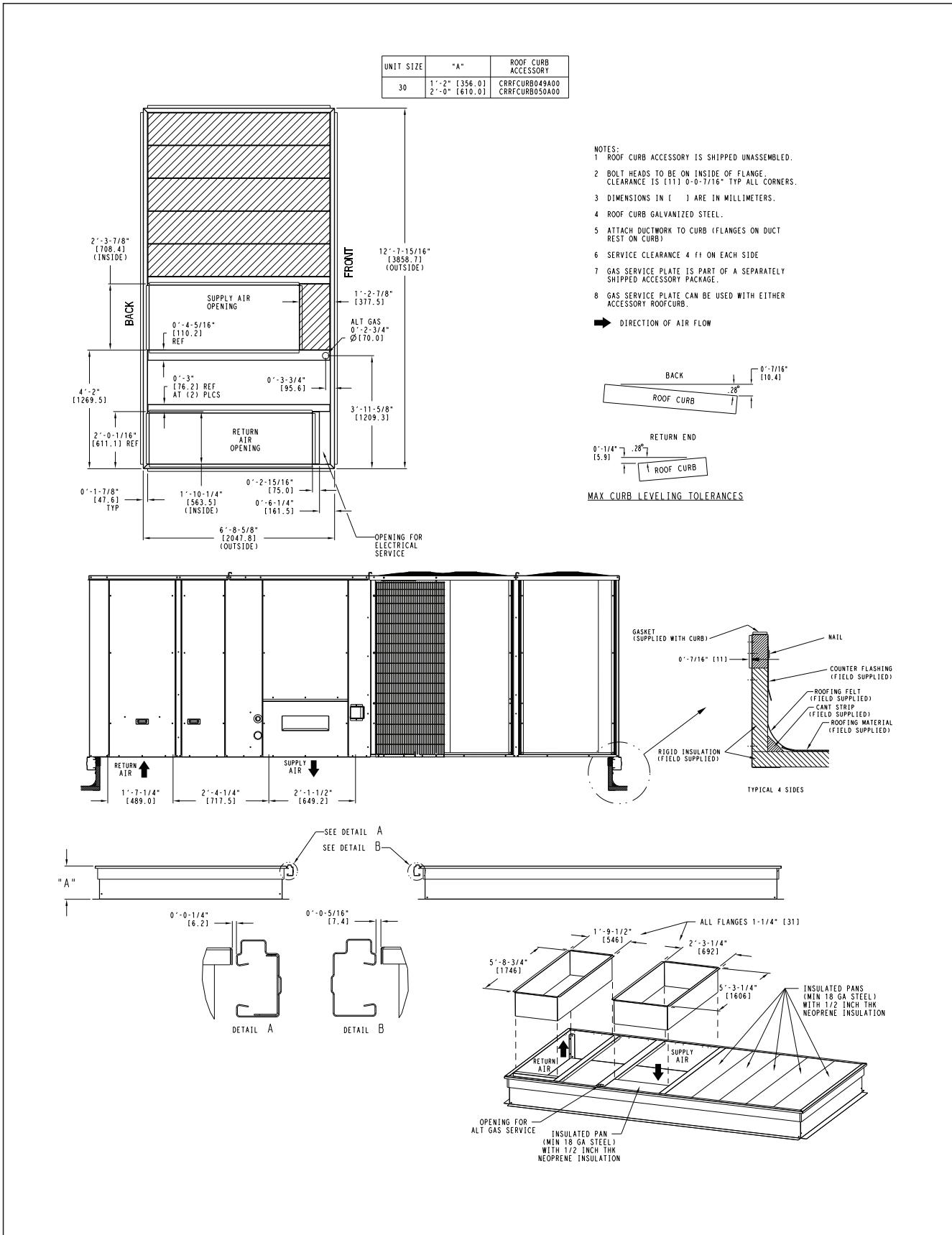


Fig. 9 — 50TC\*\*30 Roof Curb Details