

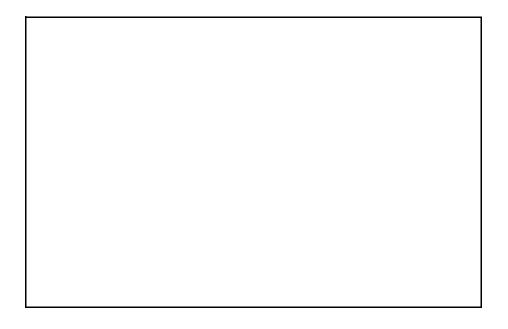
48FC 20-30 WEATHERMAKER® SERIES WITH ECOBLUE™ TECHNOLOGY SINGLE PACKAGE ROOFTOP GAS HEAT/ELECTRIC COOLING UNITS

ecoblue[™] () technology

- 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

48FC 20-30 size units are single-packaged electric cooling, gas heating units 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 upcoming DOE-2023 (Department of Energy) and ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1 IEER minimum efficiency requirements. Models use Carrier's leading Ecoblue[™] Vane Axial Indoor Fan System with built in speed control and no fan belts or pullies. All models have two-stage cooling and single circuit full active evaporator coil design to provide maximum efficiency and comfort control.

FEATURES

Standard Base Unit

• Puron (R-410A) HFC refrigerant

- IEERs up to 14.5
- Exceeds current DOE IEER efficiencies while meeting DOE's new stringent 2023 IEER efficiency requirements
- 2023 ASHRAE 90.1, and IECC IEER energy compliant
- Rated in accordance with AHRI Standard 340/360
- Designed in accordance with Underwriters Laboratories standard 60335-2-40
- Listed by ETL and ETL-Canada
- Two-stage/single-circuit cooling capacity control on all models
- Non-corrosive composite sloping design; side or center drain condensate pan. Meets ASHRAE Standard 62
- Cooling operating range up to 125°F (52°C), and down to 40°F (4°C) standard. See factory installed options and field installed accessories for lower operating range capabilities
- Dedicated vertical and horizontal air flow models available ordered as factory option. No special kits required
- Two-inch disposable return air filters on slide out track. Four inch track available as field installed accessory
- Thru-the-bottom power and gas entry capability
- Single point gas and electric connections
- 24-volt control circuit protected with resettable circuit breaker
- Direct Drive EcoBlue[™] indoor fan system uses vane axial fan design and electronically commutated motor:
 - Shall have inherent automatic-reset thermal overload protection
 - Shall require no fan/motor belts for operation, adjustments, and/or initial fan speed setup
 - Shall be internally protected from electrical phase reversal and loss
 - Shall have slow ramp up to speed control capabilities to help reduce sound and comfort issues
 - Shall be a slide-out design with simple screw removal
 Shall not require VFD fan speed control
 - Permanently lubricated evaporator-fan motor

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 Totally enclosed condenser motors with permanently lubricated bearings

- Low-pressure and high-pressure switches
- Mixed Air Temperature Protection Switch
- Full perimeter base rail with built-in rigging adapters and fork truck slots
- Unit Control Board (UCB) facilitates simple safety circuit troubleshooting and simplified control box arrangement

Cabinet

- 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
- Tool-less filter access door

Refrigerant System

- TXV refrigerant metering device with removable power element on each circuit
- Liquid line filter drier
- Scroll compressors with internal line-break overload protection
- Copper tube, aluminum fin coils with optional corrosion resistant coils.

Gas Heat

- Exclusive IGC anti-cycle protection for gas heat operation. 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 81%
- Inducted draft combustion
- Redundant gas valve, with up to two stages of heating
- Flame roll-out safety protector
- Solid-state electronic direct spark ignition system

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 SystemVu[™] controller
- 1-year parts

PERFORMANCE DATA

1.	ENTONNI	AILEDAIA	
Unit Operating Weight	lb	Curb Weight	lb
<u>COOLING</u>		<u>HEATING (GAS)</u>	
Gross Total Capacity	Btuh	Heating Capacity:	
at Condenser Air Temperature	°F	Stage 1	Btuh
Gross Sensible Capacity	Btuh	Stage 2	Btuh
Compressor Power Input	kW	Heating Capacity Total	Btuh
Indoor Entering: db °F / wb	°F	Stage 1	kW
Airflow CFM External Static Pressure	in. wg	Stage 2	kW
Indoor Fan Motor Size	HP	Heating Capacity Total	kW
Exhaust Fan Motor Size	HP		

ELECTRICAL DATA

Power Supply to Unit		
Volts		
Phase	F	Ηz
Maximum Circuit Amps		
Maximum Overcurrent Protection		

SUBMITTAL DATA

Job Name	
Architect	
Engineer	
Contractor	
Unit Designation	







FACTORY-INSTALLED OPTIONS

☐ Economizer with DRY BULB Sensing and Barometric Relief

Low Leak Air Dampers -

- Models with W7220 controller meet California Title 24-2016 Section 120.2.i for Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er X system).
- Models with SystemVu[™] controller meet California Title 24-2016 (Section 120.2) Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er 2 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.

○ Models with SystemVu[™] 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.

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FACTORY-INSTALLED OPTIONS (CONT)

Standard Base Unit

Factory Options SystemVu^T

- SystemVu[™] controls that include:
 - Large full text multi line display
 USB Flash Port for data transfer
 - USB Flash Port for data transfer - Built in i-Vu[®], CCN and BACnet¹
 - Refrigerant pressure from display
 - Quick LED Status Run, Alert, Fault
 - Conventional stat or sensor capabilities
 - Historical component runtime and starts
 - Supply air tempering
 - Equipment TouchTM/ System TouchTM compatibility
 - Demand limiting and ZS sensor compatibility
- Stainless steel gas heat exchanger (includes tubes, vestibule plate and collector box)
- 1. BACnet is a trademark of ASHRAE.

- Humidi-MiZer® adaptive dehumidification system Non-powered 115-volt convenience outlet High static evaporator fan motor Return Air smoke detector Supply Air smoke detector Unit mounted CO2 sensor Condenser coil hail guard - louvered style Special coating protection for evaporator and condenser coils Hinged panels for easy unit access
- Filter status switch
- MERV-13, 4-inch return air filters
- Powered 115-volt convenience outlet
- □ Non-fused disconnect switch
- Phase Monitor/Protection
- High SCCR protection
- Centrifugal power exhaust (vertical air flow only)

FIELD-INSTALLED ACCESSORIES

Economizer with DRY BULB Sensing and Barometric Relief

Low Leak Air Dampers -

- Models with W7212 controller provides standard nondiagnostic control. EconoMi§er[®] IV.
- Models with W7220 controller meet California Title 24-2016 Section 120.2.i for Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er X system).
- Models with SystemVuTM controller meet California Title 24-2016 (Section 120.2) Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er 2 system).

Economizer with ENTHALPY Sensing and Barometric Relief

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- Models with W7220 controller meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er X system).
- Models with SystemVu[™] controller meet California Title 24-2016 (Section 120.2) Fault Detection and Diagnostic (FDD) requirements (EconoMi\$er 2 system).

☐ Economizer with DRY BULB Sensing and Barometric Relief

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Outside air, return air, and relief air (volume) dampers are AMCA rated.

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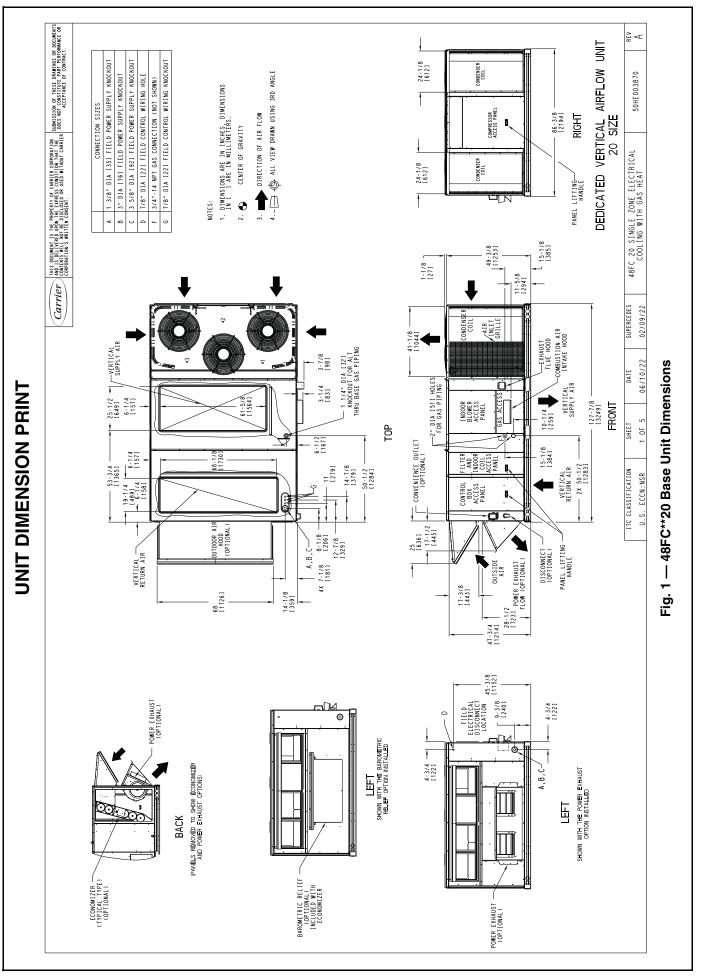
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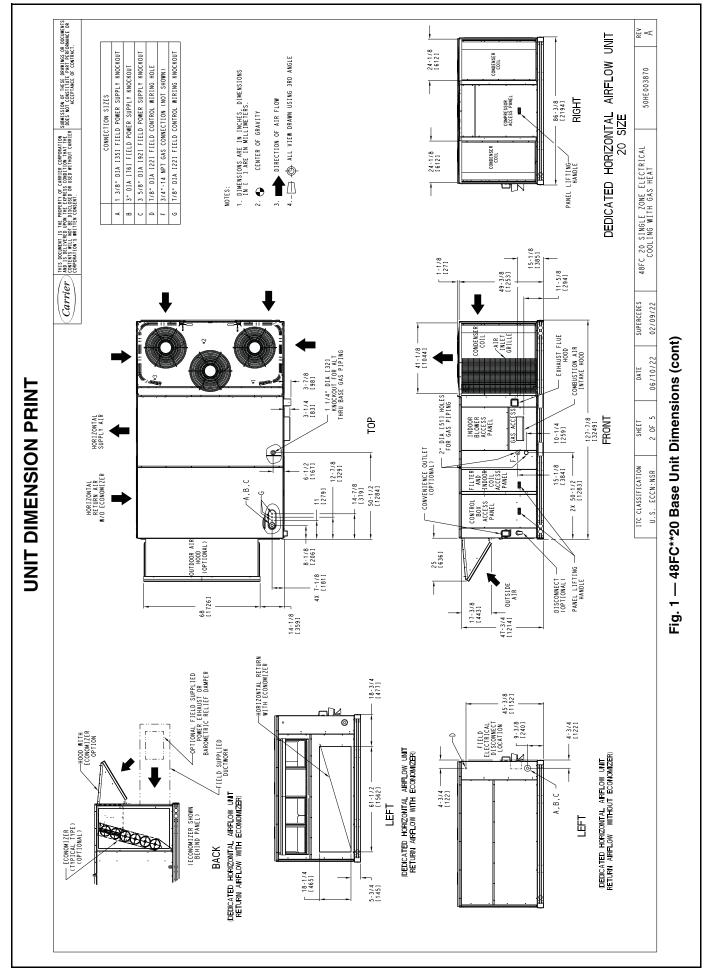
FIELD-INSTALLED ACCESSORIES (CONT)

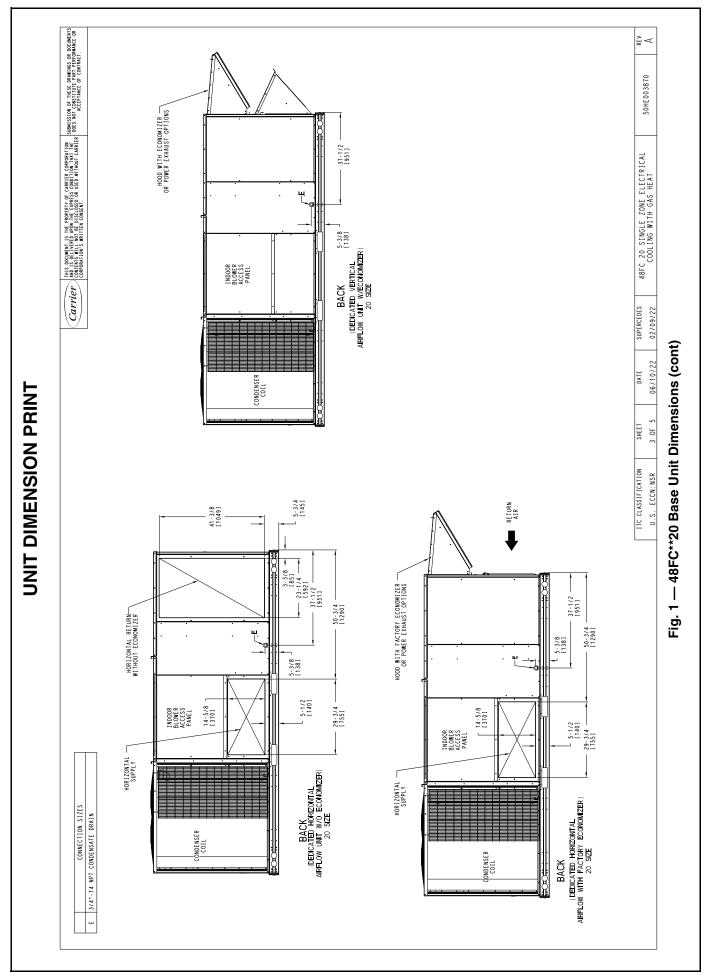
Standard Base Unit

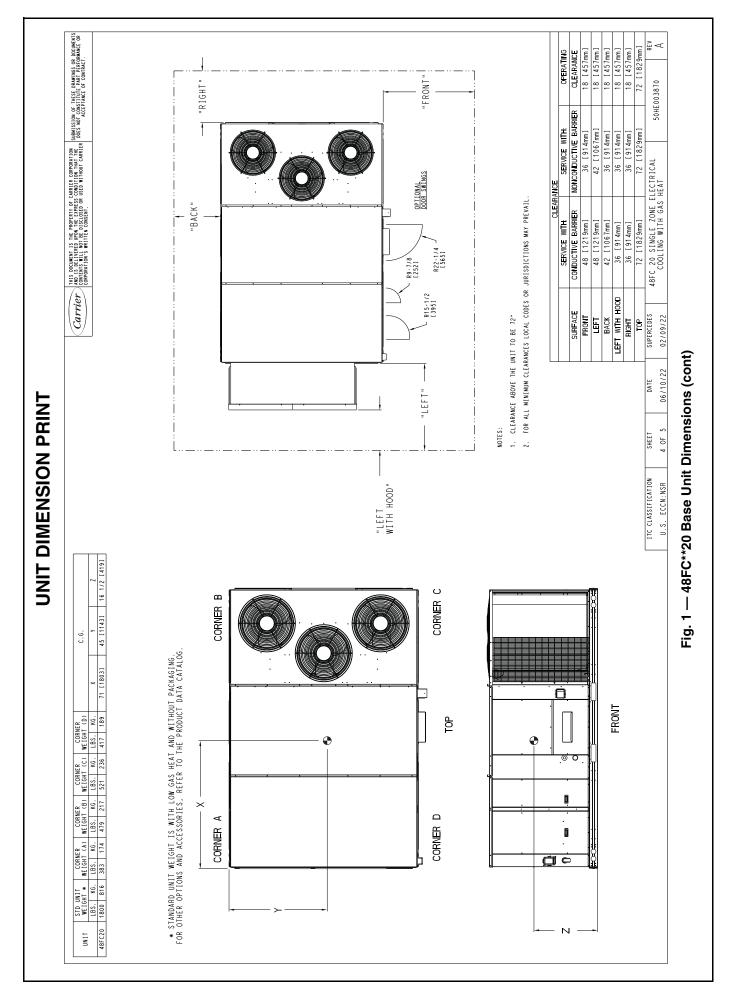
- Power exhaust centrifugal fan design
- Two-position motorized outdoor air damper
- Manual outside air damper 25%
- \square Roof curb 14 inch (356 mm) tall
- \square Roof curb 24 inch (610 mm) tall
- Horizontal roof curb adapts to standard base unit and directs airflow horizontally
- Condenser coil hail guard, louvered style
- Flue discharge deflector
- Liquid propane (LP) conversion kit
- High altitude conversion kit
- Phase monitor (loss of phase/phase reversal)
- \Box Winter start kit, down to 25°F (-4°C)
- Low ambient head pressure controller, down to $0^{\circ}F$ $(-18^{\circ}C)^{*}$
- Low ambient head pressure controller, down to -20°F (-29°C)
- Time Guard II compressor anti-cycle protection
- Thermostats and Sensors
- Supply Air Smoke Detection
- Return Air Smoke Detector

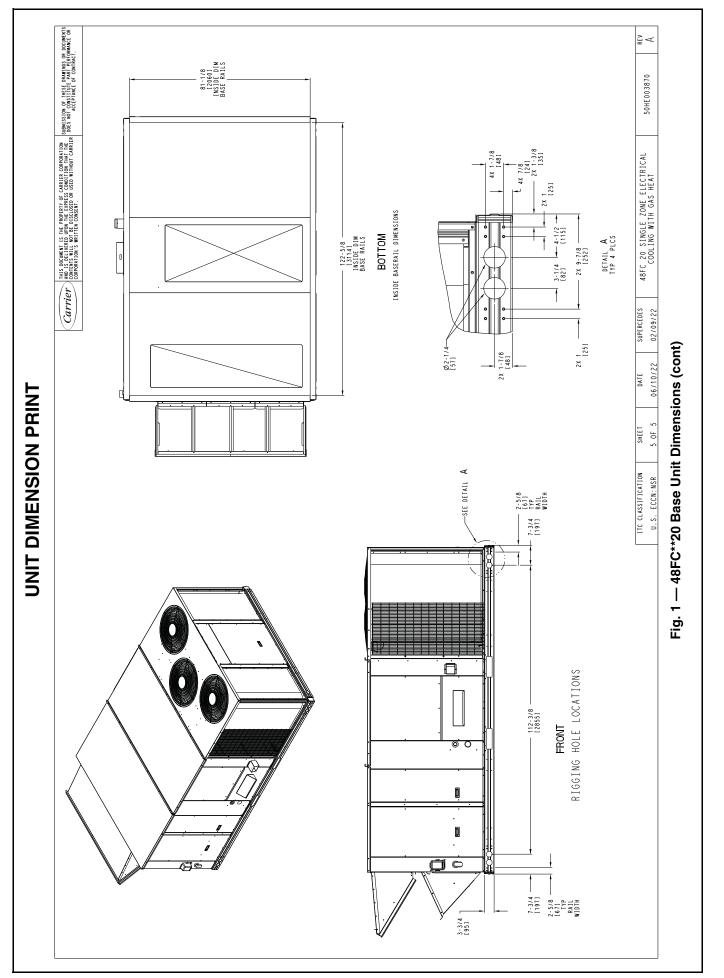
- Motor status indicator switch Filter status indicator switch Four-inch disposable return air filters on slide out track MERV-8 filter kits MERV-13 filter kits 20-Amp non-powered convenience outlet Economizer Sensors Single dry bulb temperature sensor Differential dry bulb temperature sensor Single enthalpy sensor Differential enthalpy sensor CO2 - wall mounted CO_2 — duct mounted CO₂ — unit mounted **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 Com
 - mercial Start-Up and Optional Extended Warranty Price pages for further information.

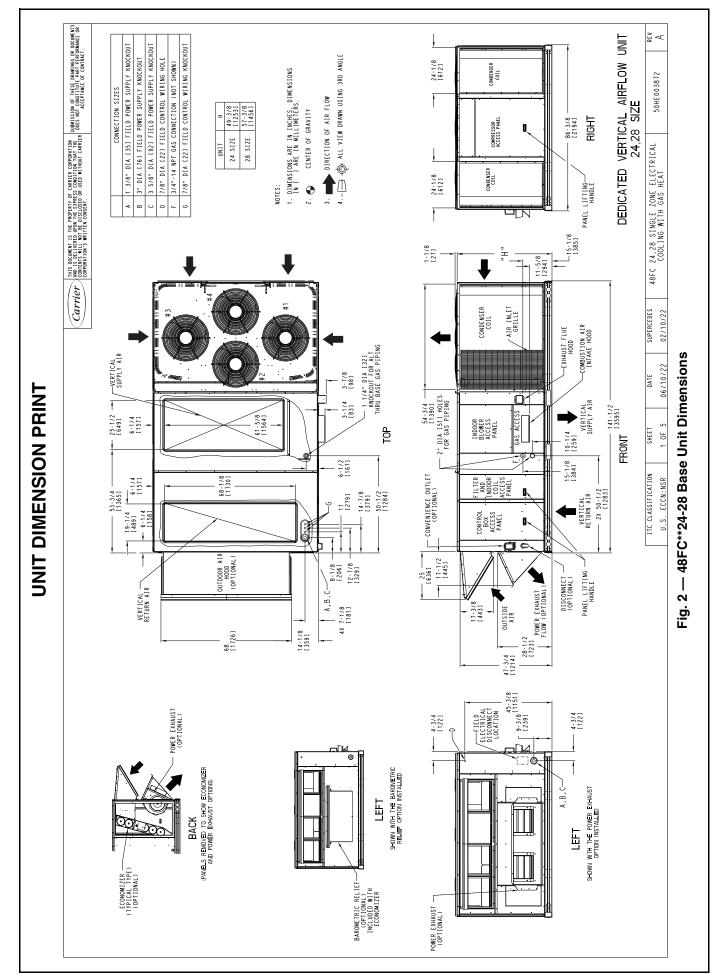


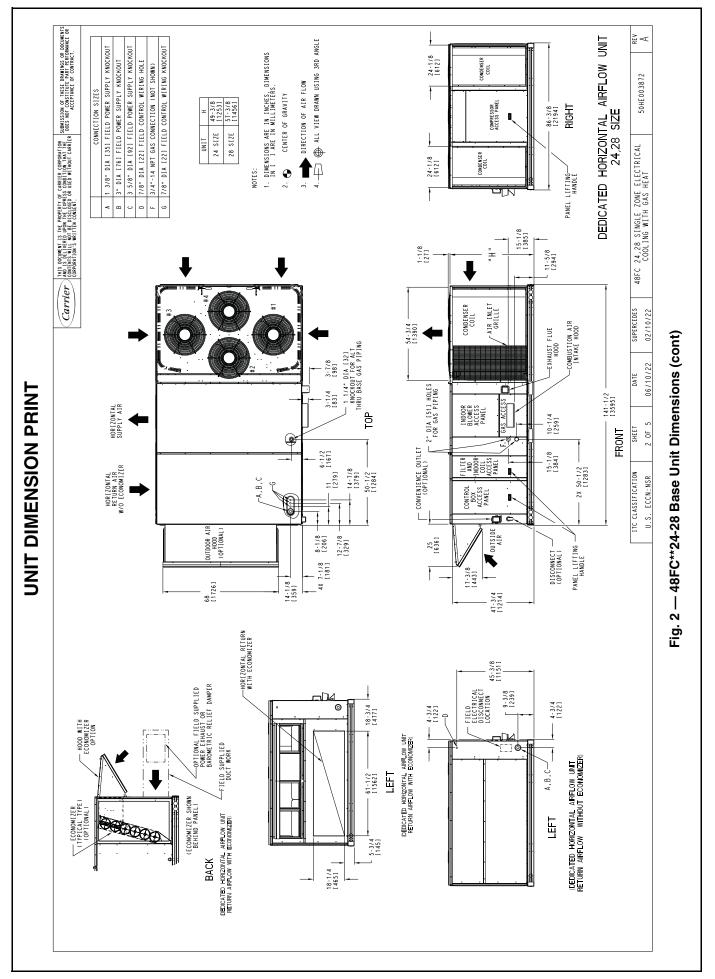


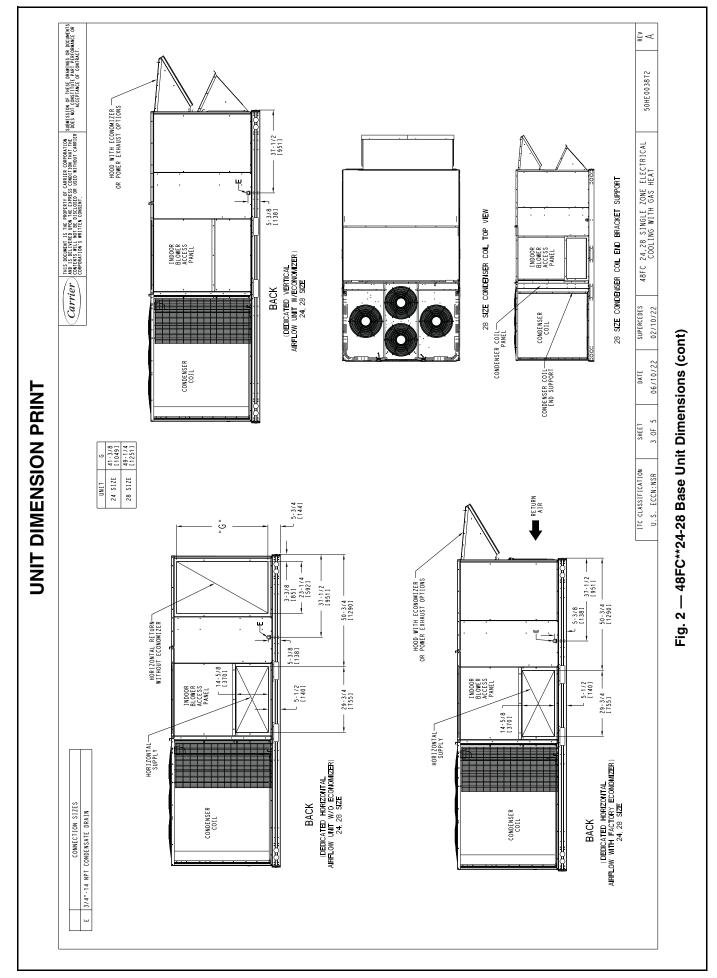


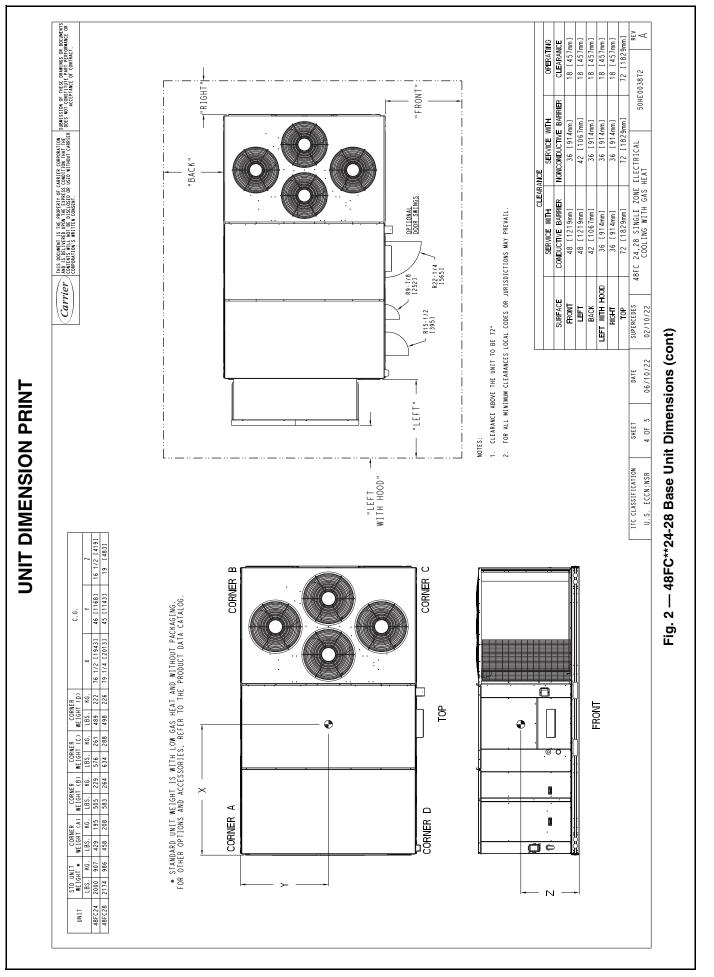


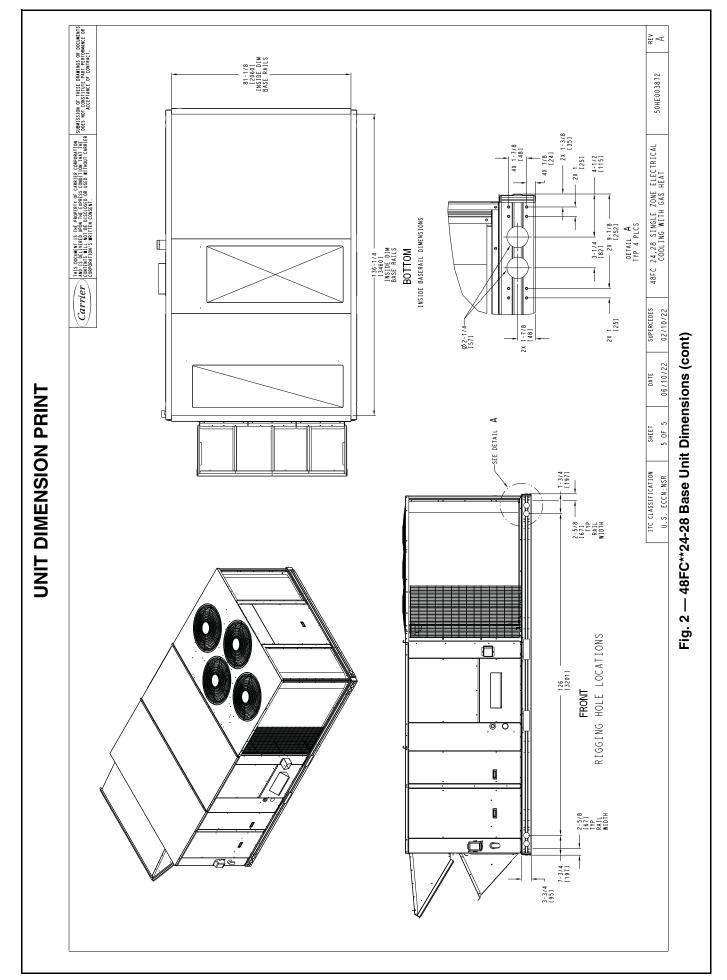


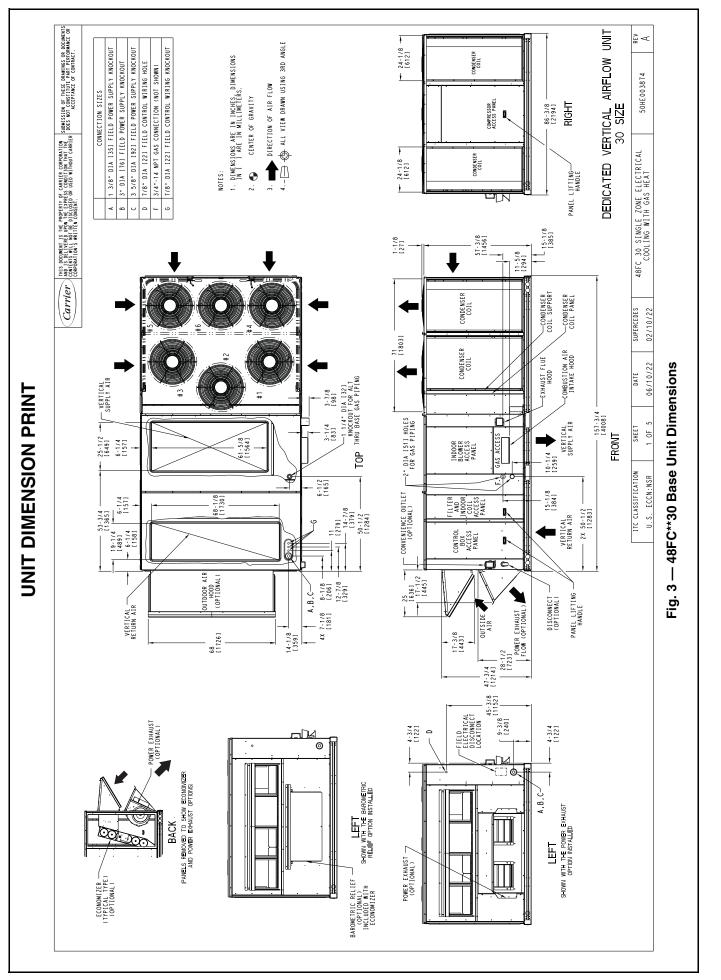


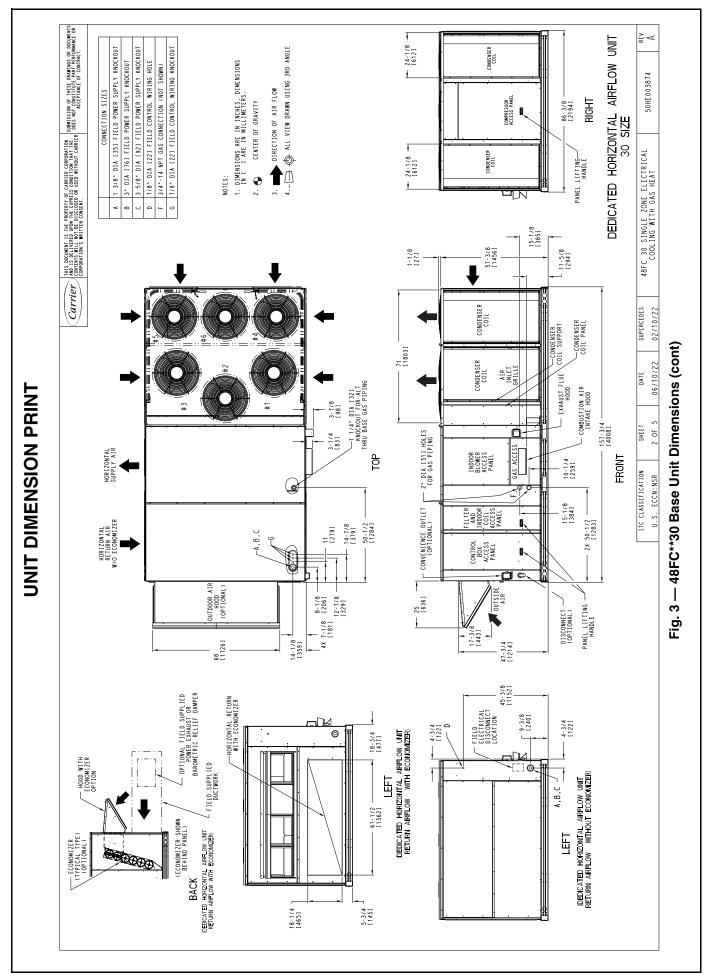


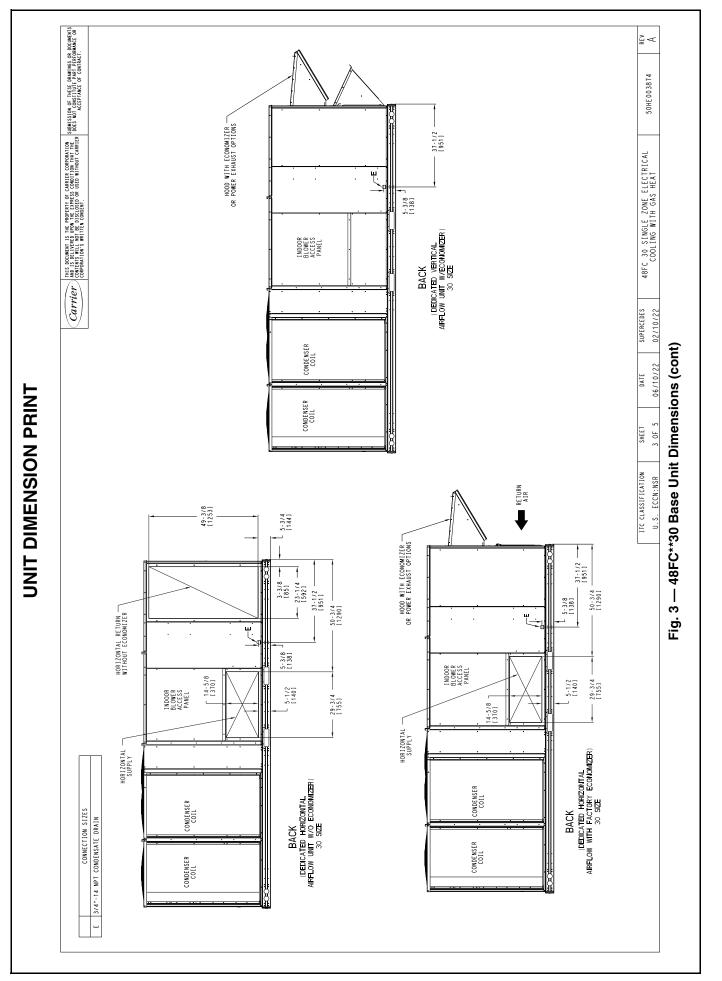


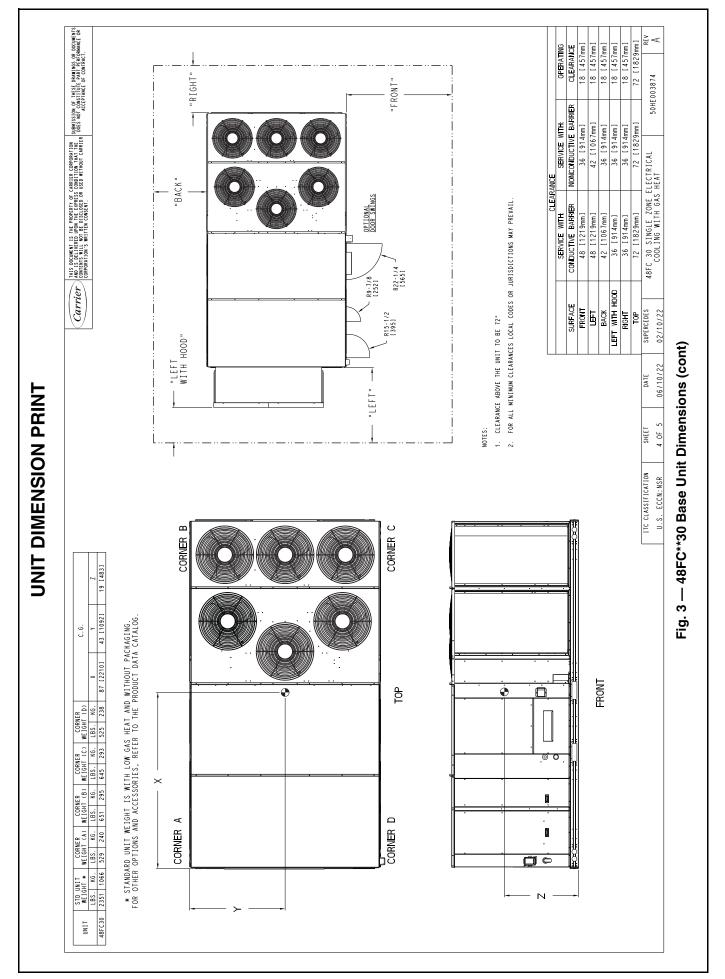


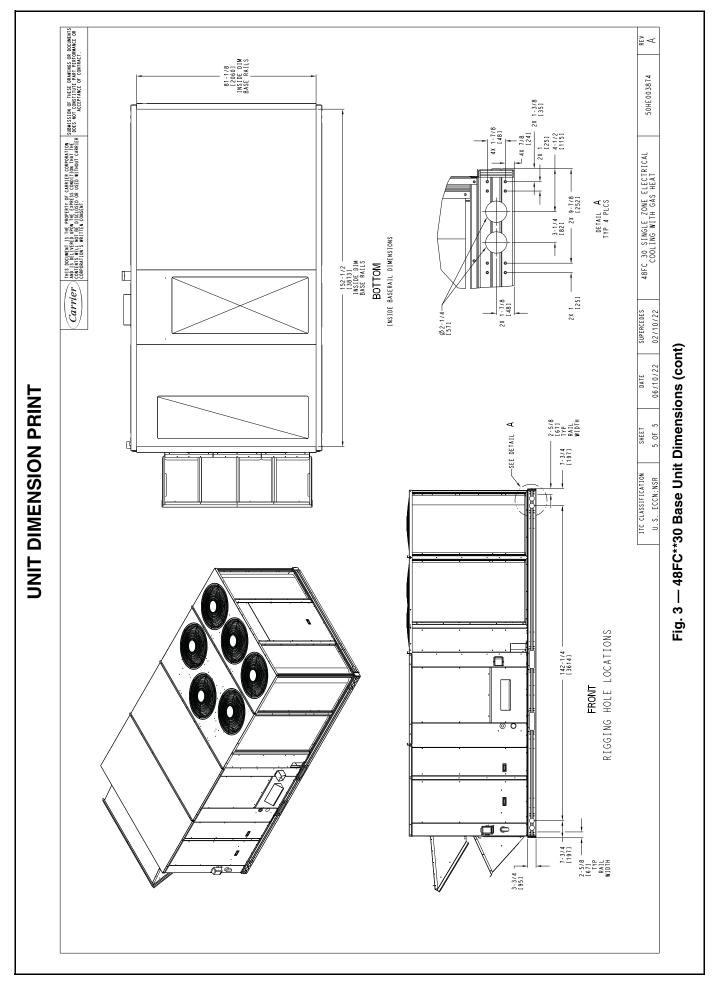


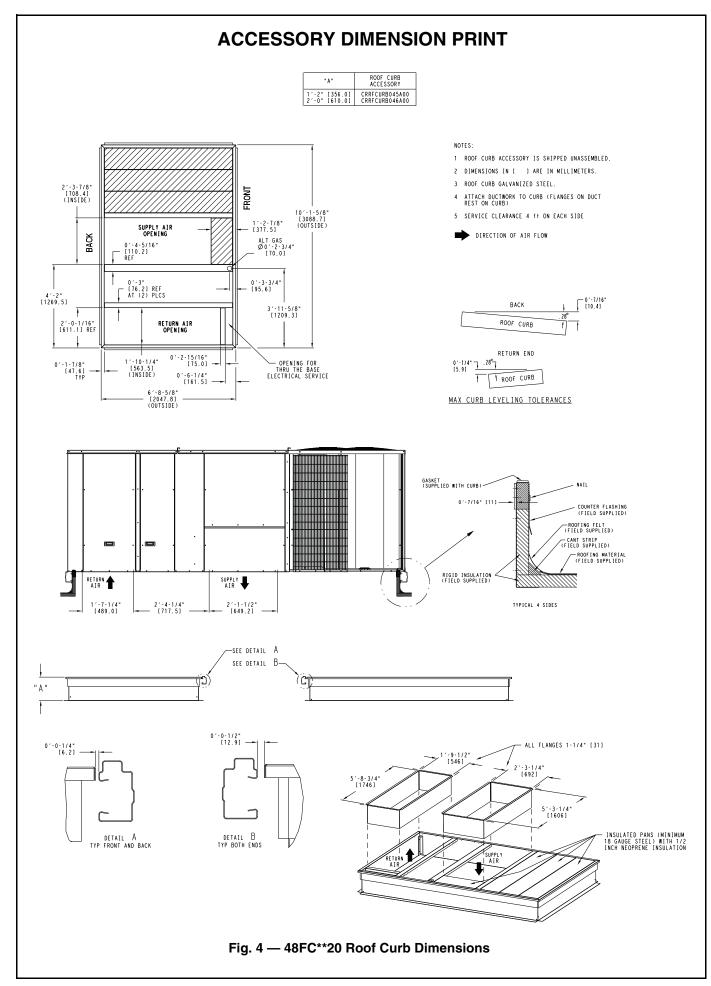


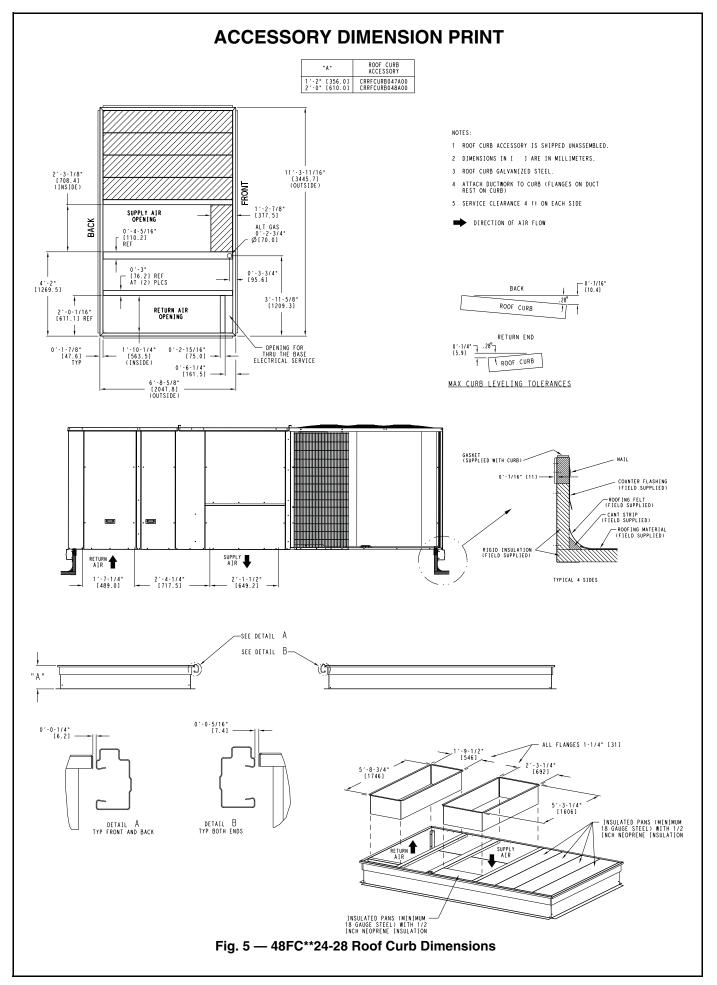


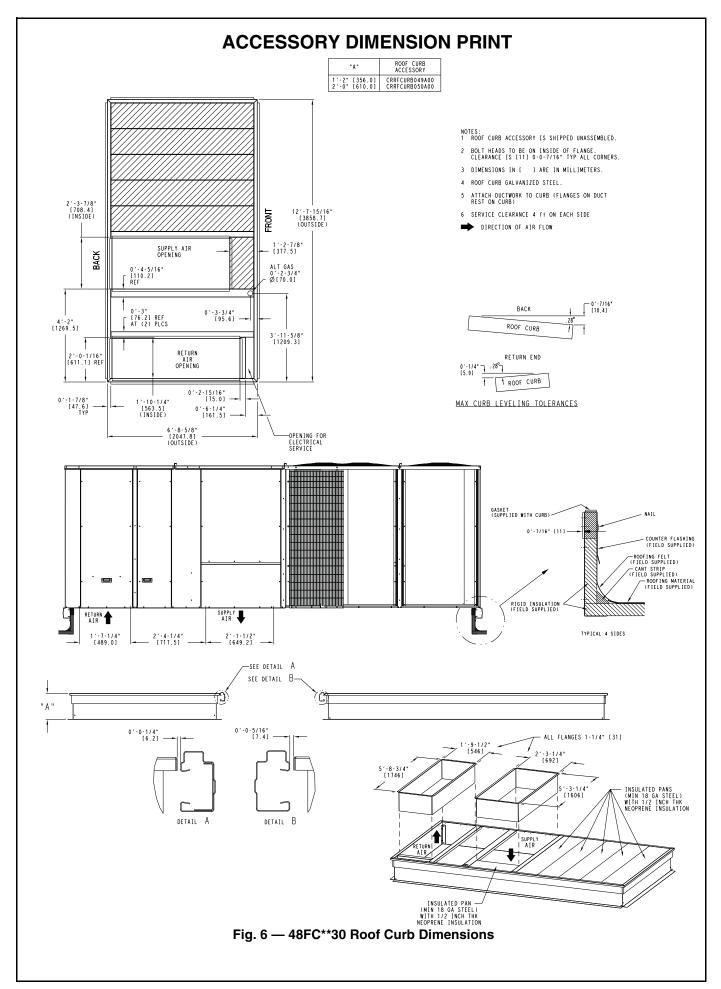












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