

48TC
Single Package Rooftop
Gas Heating/Electric Cooling Unit
Sizes 08 – 12 with Puron® (R-410A) Refrigerant



Turn to the Experts.™

Submittal Data

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



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



This product has been designed and manufactured to meet Energy Star® criteria for energy efficiency. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow all manufacturer's refrigerant charging and air flow instructions. **Failure to confirm proper charge and air flow may reduce energy efficiency and shorten equipment life.**



DESCRIPTION

48TC units are high-efficiency, 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 ASHRAE 90.1-2004 and Energy Star minimum efficiency levels.

STANDARD FEATURES

Base Unit

- Puron (R-410A) HFC refrigerant
- ARI certified efficiency levels up to 11 EER
- Rated in accordance with ARI Standard 360
- Designed in accordance with Underwriters' Laboratories Std 1995 and listed by UL and UL, Canada
- Single-stage capacity control
- Non-corrosive composite sloping design; side or center drain condensate pan. Meets ASHRAE Standard 62
- Cooling operating range from 40°F up to 115°F. Below 40°F requires Winter Start Kit
- Convertible from vertical to horizontal airflow for slab mounting
- 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
- Belt drive, constant torque, permanently lubricated evaporator-fan motor
- Totally enclosed condenser motors with permanently lubricated bearings
- Low-pressure and high-pressure switches
- Full perimeter base rail with built-in rigging adapters and fork truck slots

Cabinet

- Access panels with easy grip handles and NO-STRIP screw devices
- 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

- Acutrol™ refrigerant metering system
- Liquid line filter drier
- Scroll compressors with internal line-break overload protection
- 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

- 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%
- Induced draft combustion
- Redundant gas valve, with up to 2 stages of heating
- Flame roll-out safety protector
- Solid-state electronic direct spark ignition system

Standard Warranty

- 10-year heat exchanger
- 5-year compressor
- 1-year parts

PERFORMANCE DATA

Unit Operating 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 _____ External Static Pressure _____ in.wg

Indoor Fan Motor Size _____ Hp

Exhaust Fan Motor Size _____ Hp

Curb Weight _____ lb

Heating

Heating Capacity:

Stage 1 _____ Btuh

Stage 2 _____ Btuh

Heating Capacity Total _____ Btuh

Stage 1 _____ kW

Stage 2 _____ kW

Heating Capacity Total _____ kW

48TC

ELECTRICAL DATA

Power Supply to Unit _____ Volts _____ Phase _____ Hz

Minimum Circuit Amps _____ Maximum Overcurrent Protection _____

SUBMITTAL DATA

Job Name _____

Architect _____

Engineer _____

Contractor _____

Unit Designation _____

OPTIONS AND ACCESSORIES

FACTORY-INSTALLED OPTIONS (FIOPs)

- ☐ Open protocol RTU Direct Digital Control (DDC).
LON, MODBUS, BACNET and Johnson N2 protocols.
- ☐ CCN Direct Digital Control (DDC)
- ☐ Through the base connectors for gas and electric conduit/piping
- ☐ Stainless steel gas heat exchanger (includes tubes, vestibule plate and collector box)
- ☐ Economizer
- ☐ Non-fused disconnect
- ☐ Powered convenience outlet
- ☐ Non-powered convenience outlet
- ☐ High static evaporator fan motor
- ☐ Return Air smoke detector
- ☐ Supply Air smoke detector
- ☐ CO₂ sensor
- ☐ Pre-coated Al/Cu condenser coil
- ☐ E-coated Al/Cu condenser coil
- ☐ E-coated Al/Cu condenser and evaporator coil
- ☐ Cu/Cu condenser coil
- ☐ Cu/Cu condenser coil and evaporator coil

OPTIONAL WARRANTIES

- ☐ 15-year heat exchanger
- ☐ 10-year compressor
- ☐ 10-year parts

FIELD INSTALLED ACCESSORIES

- ☐ EconoMi\$er IV-electromechanical, gear driven with Belimo actuator (2-10v DC signal) and controller
- ☐ EconoMi\$er2-compatible with DDC controls; gear driven with Belimo actuator (4-20mA) signal and no controller
- ☐ Power exhaust
- ☐ Barometric relief
- ☐ Two-position motorized outside air damper
- ☐ Manual outside air damper
- ☐ Roofcurb - 14 inch tall
- ☐ Roofcurb - 24 inch tall
- ☐ Thru-the-bottom connections-electrical only
- ☐ Thru-the-bottom connections-electrical and gas
- ☐ Condenser coil grille
- ☐ 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)
- ☐ Fan/Filter status switch
- ☐ Low ambient head pressure controller-down to 0°F
- ☐ Low ambient head pressure controller-down to -20°F
- ☐ Winter start kit
- ☐ Time Guard II compressor anti-cycle protection

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
- ☐ UV-C lights

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN () ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

UNIT	J	K	H
48TC--08	41 1/4 [1048]	33 [838]	15 7/8 [403]
48TC--09	49 3/8 [1253]	37 1/4 [940]	23 7/8 [603]
48TC--12	48 3/8 [1238]	37 1/4 [940]	15 7/8 [403]

TOP

FRONT

BACK

LEFT

CONNECTION SIZES

	A	B	C	D	E	F	G
1 3/8" DIA [35]	FIELD POWER SUPPLY HOLE						
2 1/2" [64]	DIA POWER SUPPLY KNOCKOUT						
1 3/4" DIA [51]	GUAGE ACCESS PLUG						
7/8" DIA [22]	FIELD CONTROL WIRING HOLE						
3/4"~14 NPT	CONDENSATE DRAIN						
1/2"~14 NPT	GAS CONNECTION						
2" DIA [51]	POWER SUPPLY KNOCK-OUT						

THRU THE BASE CHART


THESE HOLES REQ'D FOR USE

CREWMEM001A01, 002A01, 003A01, 004A01	THREADED CONDUIT SIZE	WIRE SIZE (MAX.)	REQ'D HOLE SIZE (MAX.)
1/2"	1/2"	24V 7/8" (22-2)	ACC. 7/8" (22-2)
3/4"	001 (003)	POWER 1 1/8" (28-4)	POWER 1 1/8" (28-4)
1 1/4"	002 (004)	POWER 1 3/4" (44-4)	POWER 1 3/4" (44-4)
003	1/2" FIP	GAS 1 1/4" (31-8)	GAS 1 1/4" (31-8)
004	3/4" FIP	GAS 1 5/8" (41-3)	GAS 1 5/8" (41-3)

SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE

48TC

CERTIFIED DIMENSION 48TC08-12



UNITED
CARRIER

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TECHNOLOGIES SYRACUSE, NY
13221

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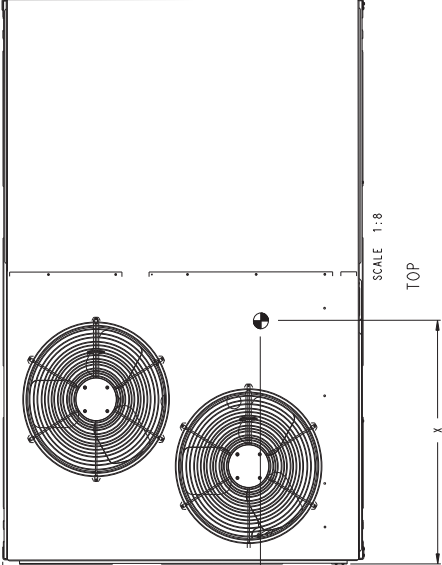
UNIT	STD. WEIGHT	UNIT WEIGHT	CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C. G.			
			LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	
48TC--08	810	367	171	78	164	74	233	106	242	110	41	7/8 (1064)	33 7/8 (860)	20 1/4 (514)
48TC--09	910	413	193	88	181	82	260	118	276	125	41	7/8 (1051)	22 7/8 (581)	22 7/8 (581)
48TC--12	965	438	207	94	204	93	275	125	279	127	42	7/8 (1016)	24 1/8 (613)	24 1/8 (613)

CORNER A

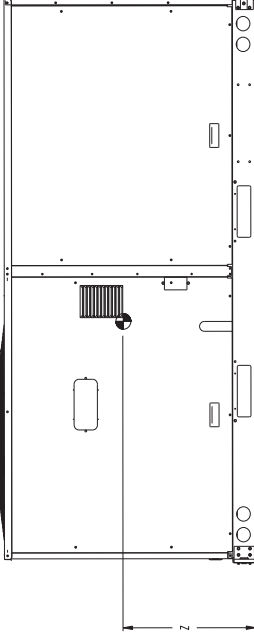
CORNER B

CORNER C

CORNER D



SCALE 1:8
TOP



BACK

48TC 08-12 SINGLE ZONE ELECTRICAL
COOLING WITH GAS HEAT

48TM500985

2.0

SHEET
2 OF 2

DATE
02-12-08

SUPERCEDS
-


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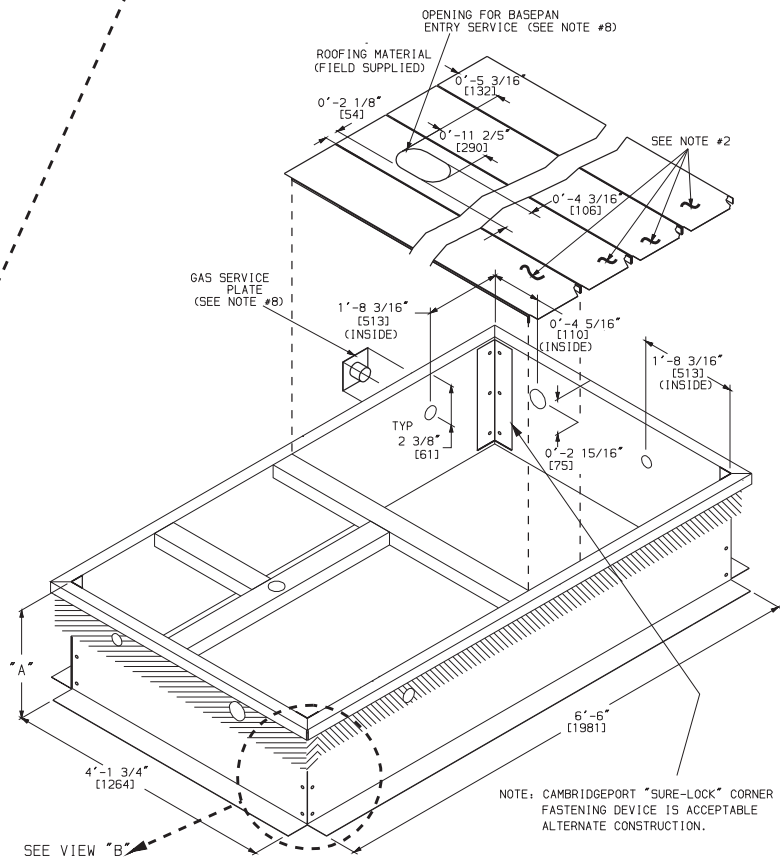
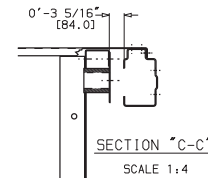
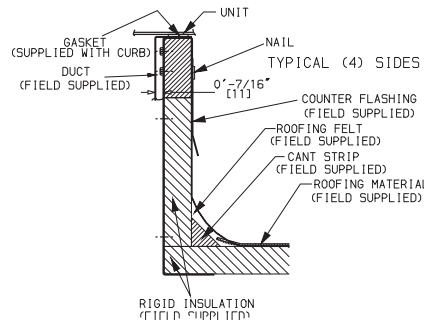
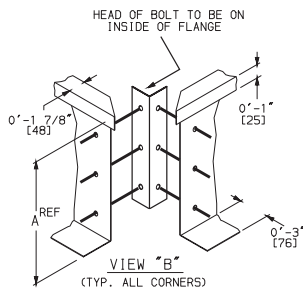
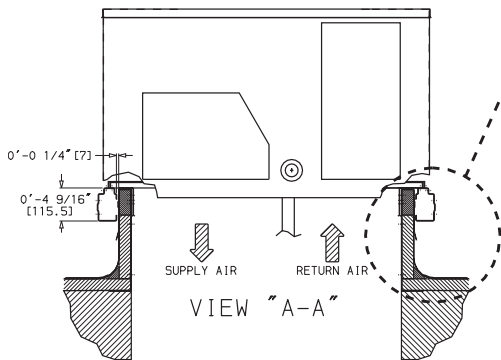
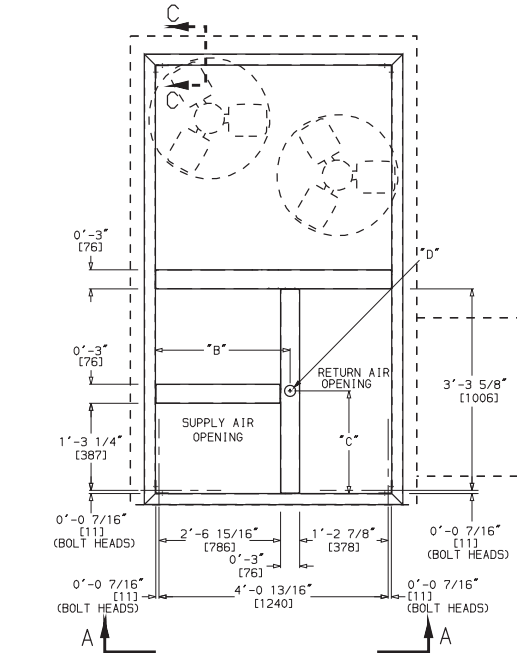
ROOF CURB DETAILS

ROOFCURB ACCESSORY	A	UNIT SIZE
CRRFCURB003A01	1' - 2" (356)	48TC08-12
CRRFCURB004A01	2' - 0" (610)	50TC08-12

NOTES:

1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1" THK. POLYURETHANE FOAM, 1-3/4 # DENSITY.
3. DIMENSIONS IN [] ARE IN MILLIMETERS.
4. ROOFCURB: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB)
6. SERVICE CLEARANCE 4' ON EACH SIDE.
7.  DIRECTION OF AIR FLOW.
8. CONNECTOR PACKAGES CRBTMPWR001A01 AND 2A01 ARE FOR THRU-THE-CURB GAS TYPE. PACKAGES CRBTMPWR003A01 AND 4A01 ARE FOR THE THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

CONNECTOR PKG. ACC.	B	C	D ALT DRAIN HOLE	GAS	POWER	CONTROL	ACCESSORY PWR
CRBTMPWR001A01 CRBTMPWR002A01	2'-8 7/16" [827]	1'-10 15/16" [583]	1 3/4" [44.5]	3/4" [19]NPT	3/4" [19]NPT 1 1/4" [31.7]	1/2" [12.7]NPT	1/2" [12.7]NPT
CRBTMPWR003A01				1/2" [12.7]NPT	3/4" [19]NPT		
CRBTMPWR004A01				3/4" [19]NPT	1 1/4" [31.7]		



48TC

