

## **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: \_\_\_\_\_

48TC



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

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## 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
- CO<sub>2</sub> 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

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## 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
- CO<sub>2</sub> - wall mounted
- CO<sub>2</sub> - duct mounted
- CO<sub>2</sub> - unit mounted
- UV-C lights

CERTIFIED DIMENSION 48TC08-12

NOTES:

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

UNIT	J	K	H
4481C - 08	41 1/4 [1048]	3 3/8 [658]	15 7/8 [403]
4481C - 09	49 3/8 [1253]	37 1/4 [946]	23 7/8 [669]
4481C - 12	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]

The diagram illustrates a central air handling unit (AHU) with the following components and access points:

- FILTER ACCESS PANEL (10 SPARE FILTERS)**: Located on the left side of the unit.
- CONDENSER COIL**: Located at the top center of the unit.
- INDOOR COIL ACCESS PANEL**: Located on the right side of the unit.

BACK

UNIT	J	K	H
4481C - 08	41 1/4 [1048]	3 3/8 [658]	15 7/8 [403]
4481C - 09	49 3/8 [1253]	37 1/4 [946]	23 7/8 [669]
4481C - 12	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]

Technical drawing of a circular component labeled 'CHAR 1'. The outer diameter is 16 [469]. The inner diameter is 12 [342]. A central slot has a width of 4 [142] and a height of 11 [351]. The thickness of the component is 2 [9]. A dimension of 29.5 [151] is shown from the center of the slot to the right edge. The drawing is oriented with 'TOP' at the top.

Technical drawing of a condenser unit with the following dimensions:

- Overall width: 40-3/8 [1026]
- Overall height: 20-3/4 [527]
- Overall depth: 31-7/8 [812.7]
- Front panel height: 12-5/8 [321]
- Front panel width: 16-3/8 [419.5]
- Front panel depth: 28-3/4 [731]
- Basepan width: 29-5/8 [751]
- Basepan depth: 14 [356]
- Basepan height: 3-1/4 [83]

Annotations:

- ECONOMIZER HOOD (OPTIONAL)**
- SEE THRU THE BASE CHART**
- ALL CONDENSATE DRAIN OPENING IN BASEPAN**

Detail view of the basepan:

- Width: 16 [412]
- Depth: 14 [355]
- Height: 11 [29]

Bottom left corner note: [403]

This technical drawing illustrates a condenser coil assembly. The overall width of the unit is indicated as 59 1/2 inches [1510 mm]. The top horizontal section is labeled 'ELECTRICAL DISLOCATION' and has a height dimension of 27 1/8 inches [688 mm]. The left vertical section has a height dimension of 4 5/8 inches [118 mm]. The right vertical section has a height dimension of 6 5/8 inches [168 mm]. The bottom horizontal section is labeled 'CONDENSER COIL'. Callouts point to specific features: 'A.' points to a top horizontal fin, 'B.' points to a vertical fin, 'C.' points to a bottom horizontal fin, and 'D.' points to a vertical fin. A large arrow on the left side indicates the direction of air flow through the coil.

FRONT

1 OF 2	DATE	SUPERFACES	48TC 08-12 SINGLE ZONE ELECTRICAL	48TM500985	REV 0
	02-12-08	-	COOLING WITH GAS HEAT		

C08383

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CERTIFIED DIMENSION 48TC08-12

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UNIT	STD. UNIT WEIGHT	UNIT WEIGHT	CORNER WEIGHT (A)	CORNER WEIGHT (B)	CORNER WEIGHT (C)	CORNER WEIGHT (D)	C.G.
UNIT	LBS. KG.	LBS. KG.	LBS. KG.	LBS. KG.	LBS. KG.	LBS. KG.	LBS. KG.
48TC-08	810 367	171 78	164 74	233 106	232 106	41 212	7.8 (106.4)
48TC-09	910 413	193 88	181 82	260 118	216 118	3.8 (105.1)	7.8 (86.0)
48TC-12	965 438	207 94	204 93	275 125	279 125	4.2 (107.6)	7.8 (61.3)

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

48TM500935

REV 2.0

CORNER B

CORNER A

CORNER D

CORNER C

TOP

SCALE 1:8

BACK

# 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	2' - 8 7/16" [827]	1' - 10 15/16" [583]	1 3/4" [44.5]	3/4" [19] NPT	3/4" [19] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT	
CRBTMPWR002A01				1 1/4" [31.7]				
CRBTMPWR003A01					1/2" [12.7] NPT	3/4" [19] NPT		
CRBTMPWR004A01					3/4" [19] NPT	1 1/4" [31.7]		

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