

48TC WeatherMaker® Series

Single Package Rooftop

Gas Heating/Electric Cooling Vertical Air Flow Unit

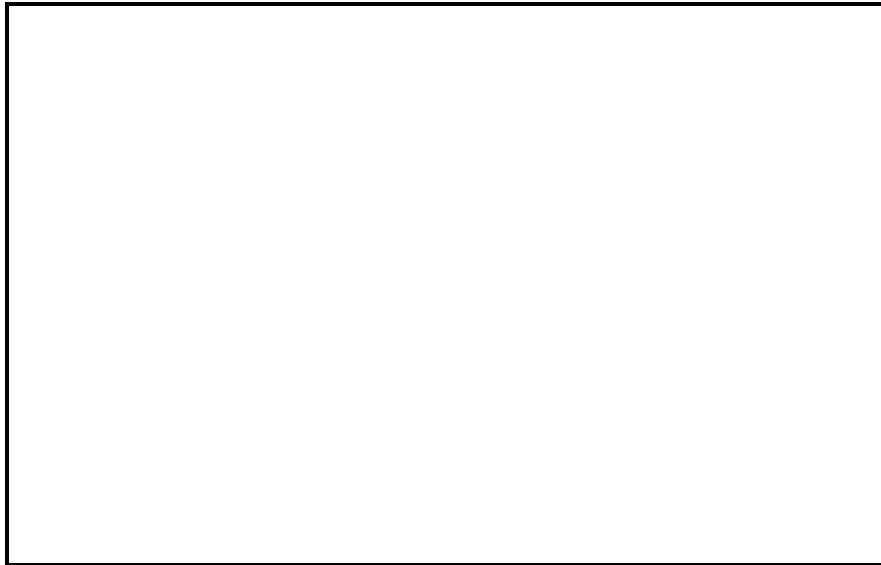
**Two Stage Cooling Capacity Control
with Puron® (R-410A) Refrigerant**

15, 17.5, 20, 25, 27.5 Tons— (Model Sizes 17, 20, 24, 28, 30)



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: _____



Certified to ISO 9001



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.



DESCRIPTION

48TC (model sizes 17, 20, 24, 28, 30) units are single-packaged dedicated vertical air flow 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 latest ASHRAE 90.1 efficiency levels.

STANDARD FEATURES

Base Unit

- Puron (R-410A) HFC refrigerant
- Two-stage cooling capacity control on all models
- EER's up to 10.8
- IEER's:
 - up to 12.0 with single speed indoor fan motor
 - up to 12.7 with 2 speed/VFD indoor fan motor
- Designed in accordance with Underwriters' Laboratories Standard 1995
- Listed by ETL and ETL-Canada
- ASHRAE 90.1 energy compliant
- Rated in accordance with AHRI Standard 340/360
- 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 on slide out track
- Provisions for thru-the-bottom power entry capability as standard in an environmentally protected area
- Single point gas and electric connections
- 24-volt control circuit protected with resettable circuit breaker and 75-VA transformer
- Permanently lubricated evaporator-fan motor
- Blower bearing extend 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

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

Refrigerant System

- 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 - 28 sizes.

Gas Heat

- Gas efficiencies up to 81%
- Induced draft combustion design
- Redundant gas valve, with up to 2 stages of heating
- Solid-state electronic direct spark ignition system
- Exclusive IGC anti-cycle protection for gas heat operation
- Flame roll-out safety protector

48TC--17-30V

STANDARD FEATURES (cont.)

Standard Warranty

- 10-year gas heat exchanger parts - Aluminized
- 15-year gas heat exchanger parts - Stainless Steel
- 5-year compressor parts
- 3-year Novation condenser coil 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

Heating Capacity:

Stage 1 _____ Btuh

Stage 2 _____ Btuh

Heating Capacity Total _____ Btuh

Stage 1 _____ kW

Stage 2 _____ kW

Heating Capacity Total _____ kW

48TC--17-30V

ELECTRICAL DATA

Power Supply to Unit _____ Volts _____ Phase _____ Hz

Minimum Circuit Amps _____ Maximum Overcurrent Protection _____

SUBMITTAL DATA

Job Name _____

Architect _____

Engineer _____

Contractor _____

Unit Designation _____

FACTORY-INSTALLED OPTIONS (FIOPs)

☐ **Economizer with DRY BULB sensing and barometric relief**

Standard Air Leak Dampers —

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

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ULTRA LOW LEAK Air Dampers —

- ☐ Models with W7220 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. EconoMi\$er X.
- ☐ Models with 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. EconoMi\$er 2.

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- ☐ 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.

- ☐ RTU Open-mult-protocol controller communicates to LON, MODBUS, BACNET and Johnson N2 protocols.

- ☐ CCN Direct Digital Control (DDC) - PremierLink

- ☐ Stainless steel gas heat exchanger (includes tubes, vestibule plate and collector box)

- ☐ 2 position motorized outdoor air damper

- ☐ 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

- ☐ CO₂ sensor

- ☐ Condenser hail guard - louvered style

- ☐ Special coating protection for evaporator and condenser coils

- ☐ Hinged access panels

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* price pages for further information.

FIELD INSTALLED ACCESSORIES

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- ☐ 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.

- ☐ Energy Demand System - wireless automated demand management and response controllers
- ☐ Power exhaust - centrifugal fan design
- ☐ Two-position motorized outdoor air damper
- ☐ 25% Manual outside air damper
- ☐ Roofcurb - 14 inch (356mm) tall
- ☐ Roofcurb - 24 inch (610mm) tall
- ☐ Adapter Curb (for sizes 17-28 only) - Adapts to Carrier DP/DR, TJ, HJ, TM, PG roofcurbs
- ☐ Condenser hail guard - louvered style
- ☐ Flue discharge deflector
- ☐ Liquid propane (LP) conversion kit
- ☐ High altitude conversion kit
- ☐ 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

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

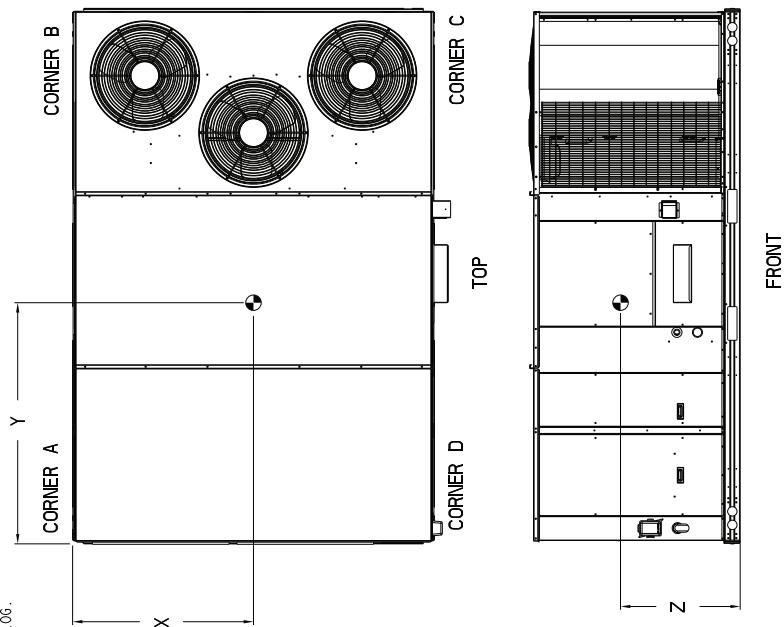


CERTIFIED DIMENSION 48TC17, 20**

UNIT	OUTDOOR COIL TYPE	STD UNIT		CORNER		CORNER		CORNER		C.G.							
		WEIGHT LBS.	WEIGHT KG.	WEIGHT (A) LBS.	WEIGHT (B) KG.	WEIGHT (C) LBS.	WEIGHT (D) KG.	X	Y	Z							
481C17	MCHX	1824	829	434	197	443	210	479	218	469	213	44	3/4	111/37	64	3/4	116/45
481C20	MCHX	1839	836	437	197	441	203	463	219	472	215	44	3/4	111/37	64	3/4	116/45
481C18	R1P	1922	860	448	204	458	218	478	228	487	236	46	11/16	119/40	67	3/8	117/37
481C18	R1P	1922	860	448	204	458	218	478	228	487	236	46	11/16	119/40	67	3/8	117/37
481C20	R1P	1922	874	441	201	523	238	519	236	438	199	42	29/32	110/90	69	1/4	117/59

R1P = NOMINAL TUBE PLATE FIN (COOPER/UMI)
MCHX = NOMINAL TUBE ALUMINUM

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



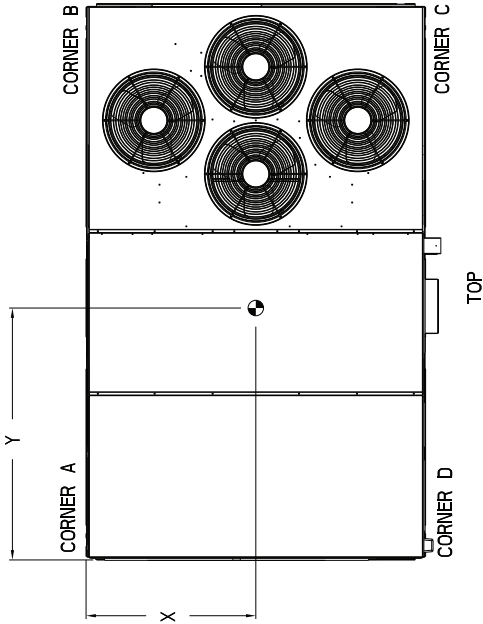
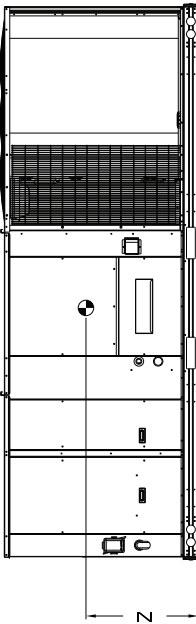
SHEET	DATE	SUPERSEDES	REV
3 OF 3	10/09/13	10/26/10	D

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48TC-17--30V



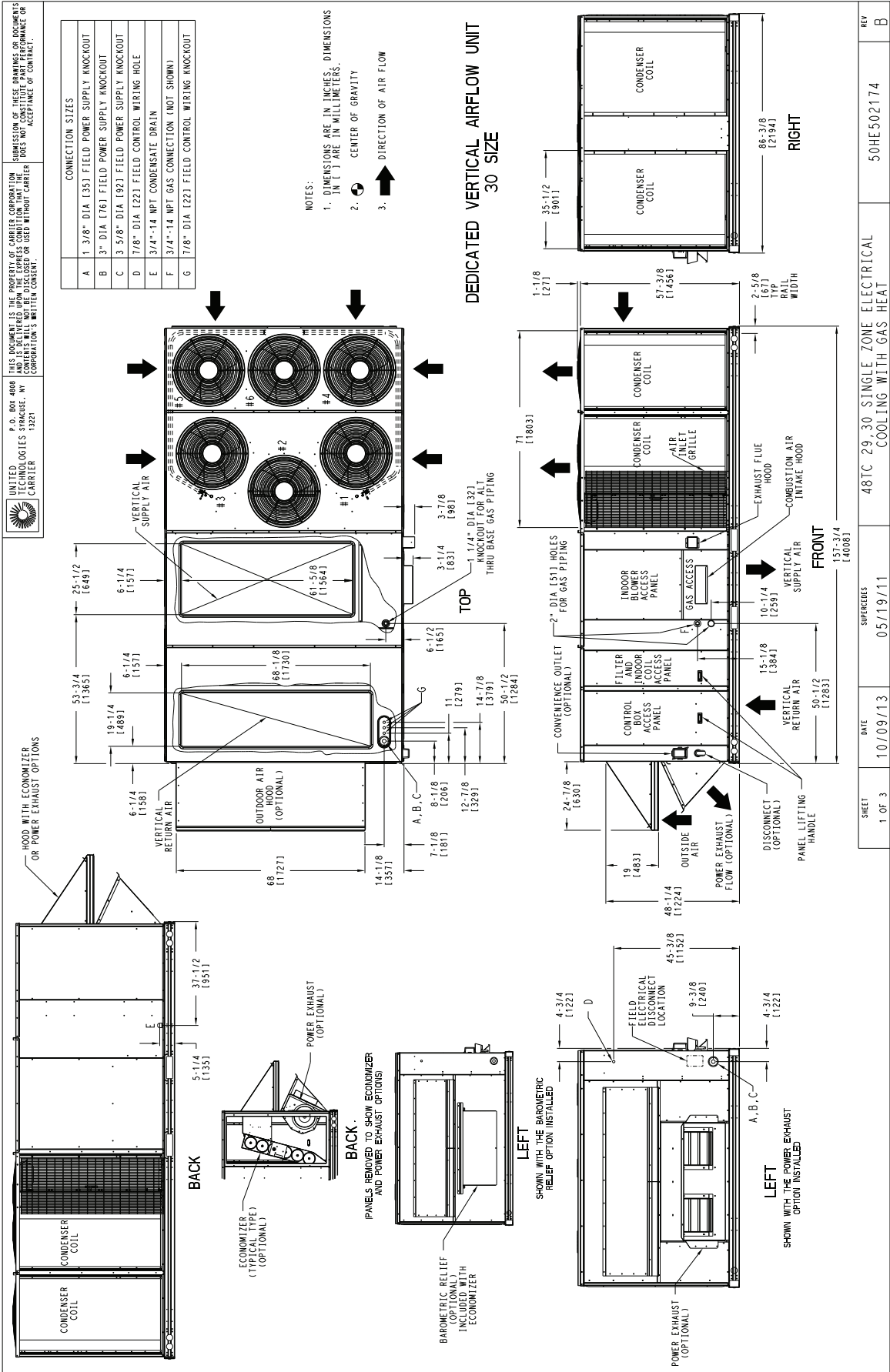
CERTIFIED DIMENSION 48TC*24, 28

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UNIT	OUTDOOR COIL TYPE	STD UNIT WEIGHT * LBS. KG.	CORNER WEIGHT (A) LBS. KG.	CORNER WEIGHT (B) LBS. KG.	CORNER WEIGHT (C) LBS. KG.	CORNER WEIGHT (D) LBS. KG.	C.G.		
							X	Y	Z
48TC24	MCUX	1989 904	383 174	540 245	423 283	442 201	46 1/8 [1172]	82 7/8 [2105]	16 1/2 [419]
48TC28	MCUX	2118 963	408 186	575 261	454 302	471 214	46 1/8 [1172]	82 7/8 [2105]	19 [483]
48TC21	RTPF	2102 956	474 215	390 177	593 269	582 265	47 1/2 [1207]	71 1/4 [1810]	16 1/2 [419]
48TC24	RTPF	2072 942	558 254	348 249	419 217	467 221	40 5/32 [1020]	70 [1778]	16 1/2 [419]
48TC25	RTPF	2247 1021	540 246	356 253	598 272	581 264	44 5/8 [1133]	71 5/8 [1819]	19 [483]
48TC28	RTPF	2197 999	571 259	364 256	528 240	534 243	41 21/32 [1036]	70 1/4 [1784]	19 [483]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)									
MCUX - NOVATION (ALUM/ALUM)									
* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING. FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.									
									
									
FRONT									
		SHEET 3 OF 3	DATE 10/09/13	SUPERCEDES 10/26/10	48TC 21-28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT		50HE501158		REV D

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48TC-17-30V

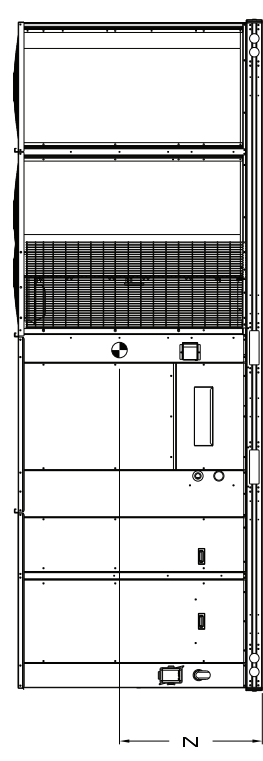
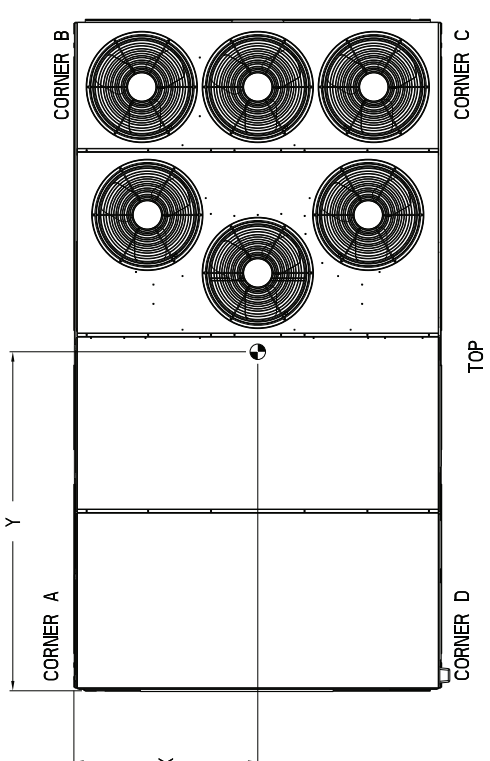
CERTIFIED DIMENSION 48TC**30



CERTIFIED DIMENSION 48TC**30

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UNIT	STD UNIT WEIGHT * LBS. KG.	CORNER WEIGHT (A) LBS. KG.	CORNER WEIGHT (B) LBS. KG.	CORNER WEIGHT (C) LBS. KG.	CORNER WEIGHT (D) LBS. KG.	C. G.	
						X	Y Z
48TC29	2292 1042	577 262	559 254	583 265	602 274	44 [1118]	77 1/2 [1969] 19 1483]
48TC30	2640 1200	697 317	595 270	621 282	728 331	44 [1118]	72 1/2 [1842] 19 1483]

* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
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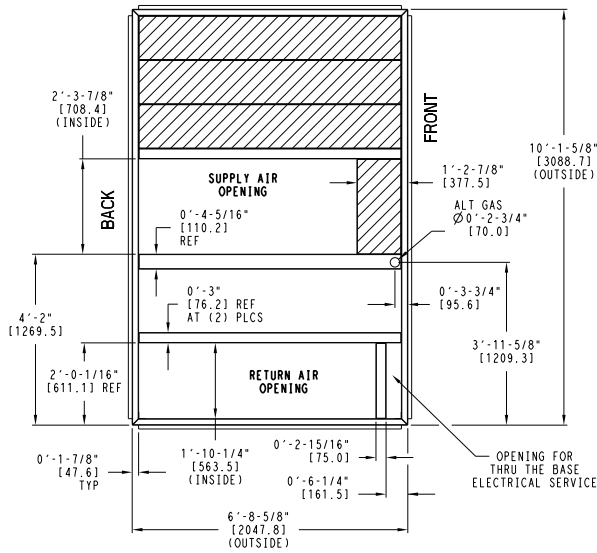
SHEET 3 OF 3	DATE 10/09/13	SUPERSEDES 05/19/11	48TC 29,30 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE502174	REV B
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48TC-17-30V

ROOF CURB DETAILS - 17 & 20 SIZE UNITS

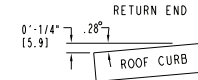
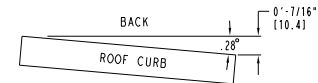
UNIT SIZE	"A"	ROOF CURB ACCESSORY
17,20	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB045A00 CRRFCURB046A00



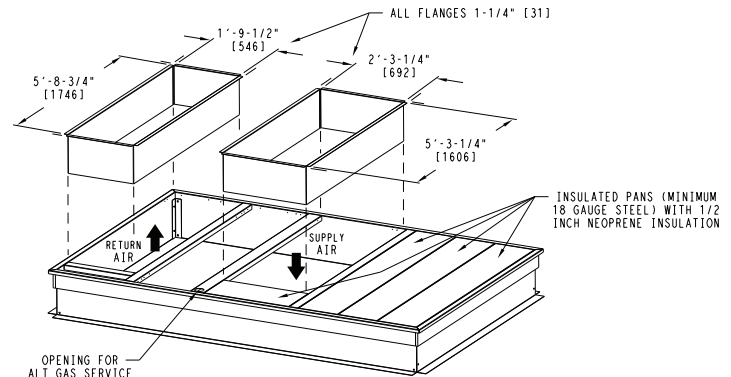
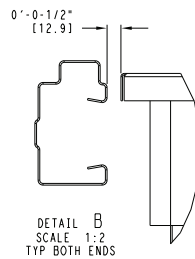
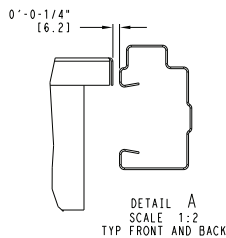
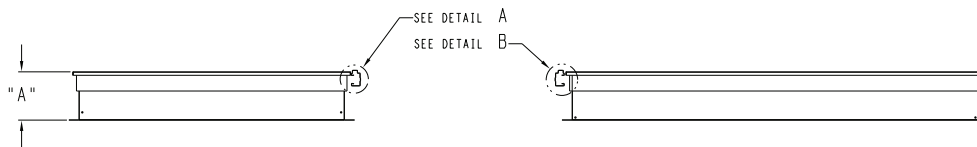
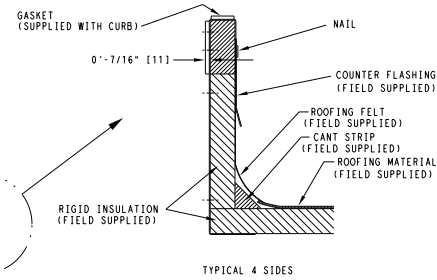
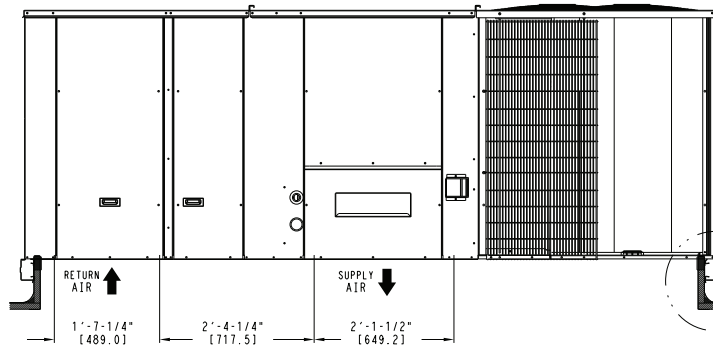
NOTES:

- 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



C09052

48TC--17-30V

The drawing shows the front and back elevations of a mechanical unit. The front elevation (right side) features a top section with diagonal hatching, a 'SUPPLY AIR OPENING' with a hatched rectangular detail, and an 'ALT GAS' opening with a circular detail. The back elevation (left side) shows a 'RETURN AIR OPENING' and a 'TYP' (typical) section. Dimensions are provided for overall and individual components in feet and inches, with millimeter equivalents in parentheses.

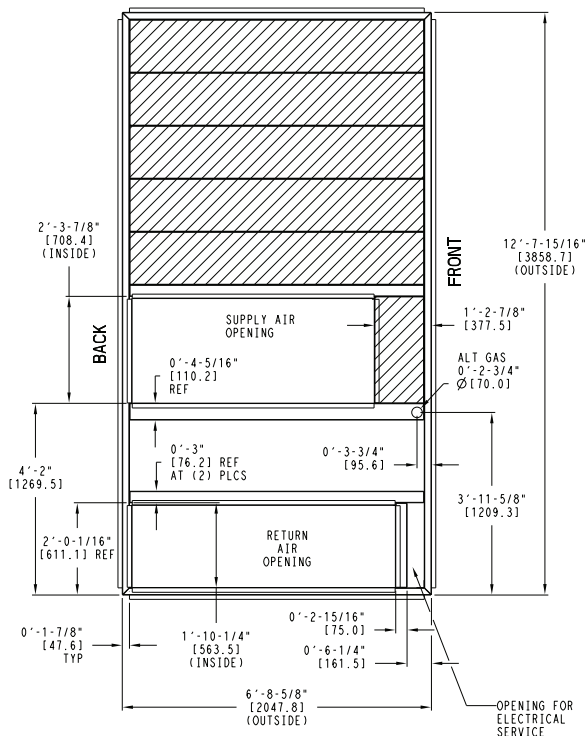
Dimension	Value (ft-in)	Value (mm)
Overall Height	11'-3-11/16"	[3445.7]
Top Hatched Section Height	2'-3-7/8"	[709.4]
Supply Air Opening Detail Height	1'-2-7/8"	[377.5]
Alt Gas Opening Diameter	Ø 2'-3/4"	[170.0]
Back Section Height (Top)	4'-2"	[1269.5]
Back Section Height (Middle)	2'-0-1/16"	[611.1]
Back Section Height (Bottom)	2'-0-1-7/8"	[47.6]
Return Air Opening Detail Height	0'-3-3/4"	[95.6]
Return Air Opening Detail Width	1'-10-1/4"	[563.5]
Return Air Opening Detail Width (Inside)	1'-10-1/4"	[563.5]
Return Air Opening Detail Width (Typical)	0'-2-15/16"	[75.0]
Return Air Opening Detail Width (Typical)	0'-6-1/4"	[161.5]
Return Air Opening Detail Width (Typical)	0'-8-5/8"	[2047.8]
Return Air Opening Detail Width (Typical)	6'-8-5/8"	[2047.8]
Return Air Opening Detail Width (Typical)	0'-1-10-1/4"	[563.5]
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Return Air Opening Detail Width (Typical)	0'-1-10-1/4"	[563.5]
Return Air Opening Detail Width (Typical)	0'-2-15/16"	[75.0]
Return Air Opening Detail Width (Typical)	0'-6-1/4"	[161.5]
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Technical drawing of the front elevation of the 1000 Series 10' x 10' x 8' Walk-In Cooler. The drawing shows a large walk-in cooler with a double door on the right side. The door is open, revealing the interior shelving. The exterior has a metal mesh screen on the right side of the door. The drawing includes dimensions for the return air and supply air areas. The return air area is 1'-7 1/4" (489,01) and the supply air area is 2'-1 1/2" (649,2). The overall width is 10'-0" (3048,00).

C09100

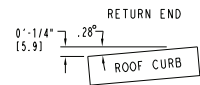
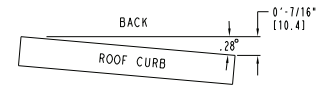
ROOF CURB DETAILS - 30 SIZE UNIT

UNIT SIZE	"A"	ROOF CURB ACCESSORY
30	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB049A00 CRRFCURB050A00

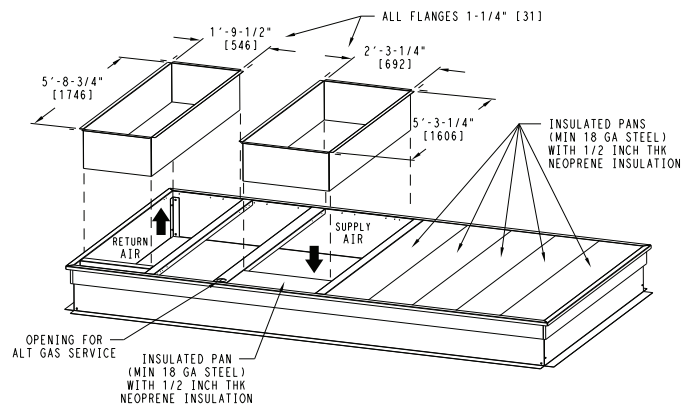
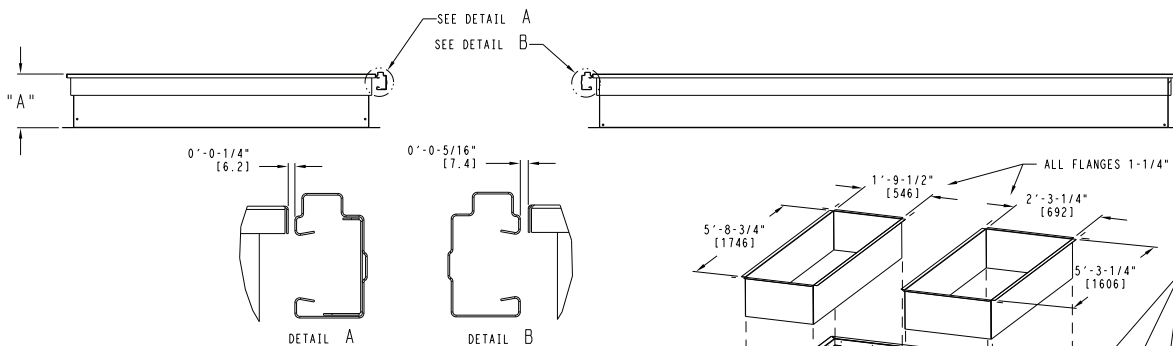
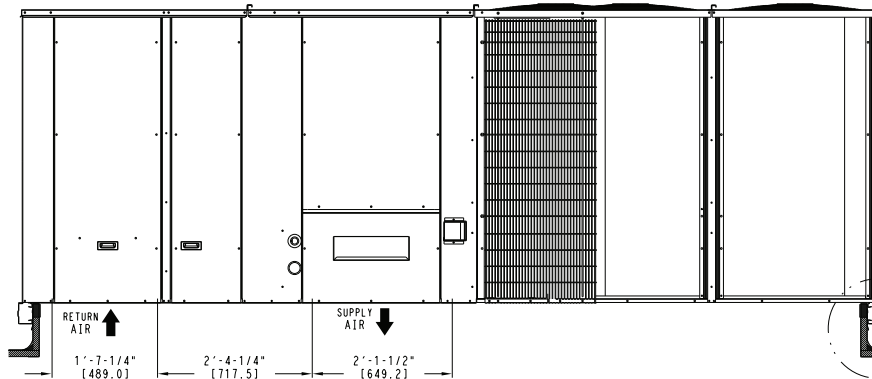


- NOTES:
- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
 - 2 BOLT HEADS TO BE ON INSIDE OF FLANGE. CLEARANCE IS [11] 0-0-7/16" TYP ALL CORNERS.
 - 3 DIMENSIONS IN [] ARE IN MILLIMETERS.
 - 4 ROOF CURB GALVANIZED STEEL.
 - 5 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
 - 6 SERVICE CLEARANCE 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



C11224