



50HCQ 07-12 WEATHERMASTER® SERIES HIGH-EFFICIENCY SINGLE PACKAGE ROOFTOP HEAT PUMP WITH FIELD-INSTALLED ELECTRIC HEAT

- 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 50HCQ units are high-efficiency single-packaged heat pump units that are pre-wired and pre-charged with Puron refrigerant. Electric heat is available as a field-installed accessory. The units are fully factory tested and agency certified. These units have field convertible supply and return openings and are intended for installation on a roof curb accessory (ordered separately), or for slab mounting (for horizontal duct connections). Units may be ordered with various factory-installed options. Field-installed accessories are also available. This unit meets 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 Staged Air Volume (SAV™) system. FEATURES <u>Standard Base Unit</u> • Puron (R-410A) HFC refrigerant • EERs up to 12.3 • IEERs up to 13.0 without SAV system • IEERs up to 15.6 with SAV system • COPs up to 3.5 • ASHRAE 90.1-2016, IECC-2015 and DOE-2018 energy compliant • Rated in accordance with AHRI Standards 340/360 • Designed in accordance with Underwriters Laboratories Std 1995 • Listed by ETL and ETL-Canada • Non-corrosive composite sloping design; side or center drain condensate pan. Meets ASHRAE Standard 62 • Single stage cooling capacity control on 07 models • Two-stage cooling capacity control on 07 to 12 models • Cooling operating range from 30°F up to 125°F (–1°C up to 52°C). Field-installed accessory extends the minimum down to –20°F (–29°C). • Convertible from vertical to horizontal airflow for slab mounting • Two-inch disposable return air filters • Thru-the-bottom power entry capability • Single point electric connections on field-installed electric heat units • 24-volt control circuit protected with resettable circuit breaker and 75-VA transformer • Belt drive, permanently lubricated evaporator-fan motor on all size units. • Totally enclosed condenser motors with permanently lubricated bearings • State-of-the-art defrost control board, easily configured for defrost cycles of 30, 60, 90, or 120 minutes. • Central Terminal Board facilitating simple safety circuit troubleshooting and simplified control box arrangement. • Loss of charge, high-pressure, and freeze protection switches • Full perimeter base rail with built-in rigging adapters and fork truck slots <u>Cabinet (All)</u> • Access panels with easy grip handles and replaceable NO-STRIP screw collar • Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection • Fully insulated cabinet • Tool-less filter access door <u>Refrigerant System (All)</u> • TXV refrigerant metering system • Liquid line filter drier • Scroll compressors with internal line-break overload protection • Indoor and outdoor coils constructed of aluminum fins mechanically bonded to seamless copper tubes. • Removable gauge line plugs for reading refrigerant pressure with unit panels in place • Four-way reversing valve operation • Suction line accumulator standard - prevents excessive liquid flood back of refrigerant to the compressor even during the start of the defrost cycle. <u>Standard Limited Parts Warranty (All)</u> • 5-year limited on all electric heater parts (field-installed) • 5-year limited on all compressor parts • 5-year parts on Factory Installed Ultra Low Leak Economizer • 1-year limited on all parts			

PERFORMANCE DATA

Unit Operating Weight _____ lb

Curb Weight _____ lb

COOLING

Gross Total Capacity _____ Btuh

Gross Sensible Capacity _____ Btuh

Compressor Power Input _____ kW

Indoor Entering: db _____ °F / wb _____ °F

Airflow _____ CFM External Static Pressure _____ in. wg

HEATING (ELECTRIC)

Power Input to Unit _____ kW

Integrated Capacity _____ Btuh

Indoor Operating Air Temperature _____ Btuh

Outdoor Air Temperature _____ °F (Winter Design)

Rating at 70% R.H. Outdoors _____ kW Heater Selected

_____ Heat/Cool Ratio

Electrical Capacity Required _____ 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 _____



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.



FACTORY-INSTALLED OPTIONS

☐ Economizer with DRY BULB Sensing and Barometric Relief

Low Leak Air Dampers —

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

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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 (EconoMiSer 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 (EconoMiSer 2 system).

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

FACTORY-INSTALLED OPTIONS (CONT)

Standard Base Unit

- ☐ 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 90.1-2013 Standard — section 6.4.3.10.b. Available on 07 to 12 models with two stage cooling control.
- ☐ RTU Open multi-protocol controller communicates to BACnet*, Modbus††, LonWorks**, and Johnson N2 protocols.
- ☐ CCN Direct Digital Control (DDC) — Premier-Link™††
- ☐ Through the base connectors electric conduit
- ☐ Two-position motorized outdoor air damper††
- ☐ Non-fused disconnect (80 Amp Max)
- ☐ Powered 115-volt convenience outlet
- ☐ Non-powered 115-volt convenience outlet
- ☐ High static indoor fan motor and drive

- ☐ Return Air smoke detector
- ☐ Supply Air smoke detector
- ☐ 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
- ☐ CO₂ sensor
- ☐ Condenser hail guard — louvered style
- ☐ Hinged access doors
- ☐ Condensate overflow switch

Optional Warranties (All)

- ☐ 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 available with SAV 2-speed fan motor.

FIELD-INSTALLED ACCESSORIES

□ Economizer with DRY BULB Sensing and Barometric Relief

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- Models with PremierLink™ controller. PremierLink controller does not meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirement (EconoMiSer 2 system).

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ULTRA LOW LEAK Air Dampers —

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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 (EconoMiSer 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 (EconoMiSer 2 system).

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Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMiSer 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.
- ☐ Power Exhaust — vertical or horizontal prop fan design
- ☐ Energy Demand System — wireless automated demand management and response controls
- ☐ PremierLink™ CCN controller*
- ☐ Electric heat
- ☐ Single point kit
- ☐ Two-position motorized outdoor air damper*
- ☐ Manual outdoor air damper 25%*
- ☐ Manual outdoor air damper 50%*
- ☐ Roof curb — 14 inch (356mm) tall
- ☐ Roof curb — 24 inch (610mm) tall
- ☐ Thru-the-bottom electrical connection kit (sizes 07-09)

- ☐ Thru-the-bottom electrical and control connection kit (size 12 only)
- ☐ Time Guard II compressor anti-cycle control
- ☐ Outdoor coil hail guard — louvered style
- ☐ Low ambient head pressure controller, down to -20°F (-29°C)
- ☐ Programmable setback thermostat
- ☐ Phase Monitor
- ☐ Thermostats and sensors
- ☐ Condensate overflow switch

Economizer Sensors

- ☐ Single dry bulb control
- ☐ Differential dry bulb control
- ☐ Single enthalpy control
- ☐ Differential enthalpy control
- ☐ CO₂ — wall mounted
- ☐ CO₂ — duct mounted

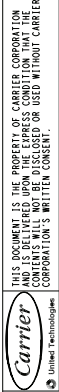
* Not available with SAV 2-speed fan motor.

CERTIFIED DIMENSION PRINT

NOTES:

1. DIMENSIONS ARE IN INCHES; DIMENSIONS IN [] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

UNIT	J	K	H
50HCOA, D07	41-1/4 [1048]	33-3/4 [851]	15-7/8 [403]
50HCO008	49-3/8 [1253]	36-3/8 [923]	15-7/8 [403]

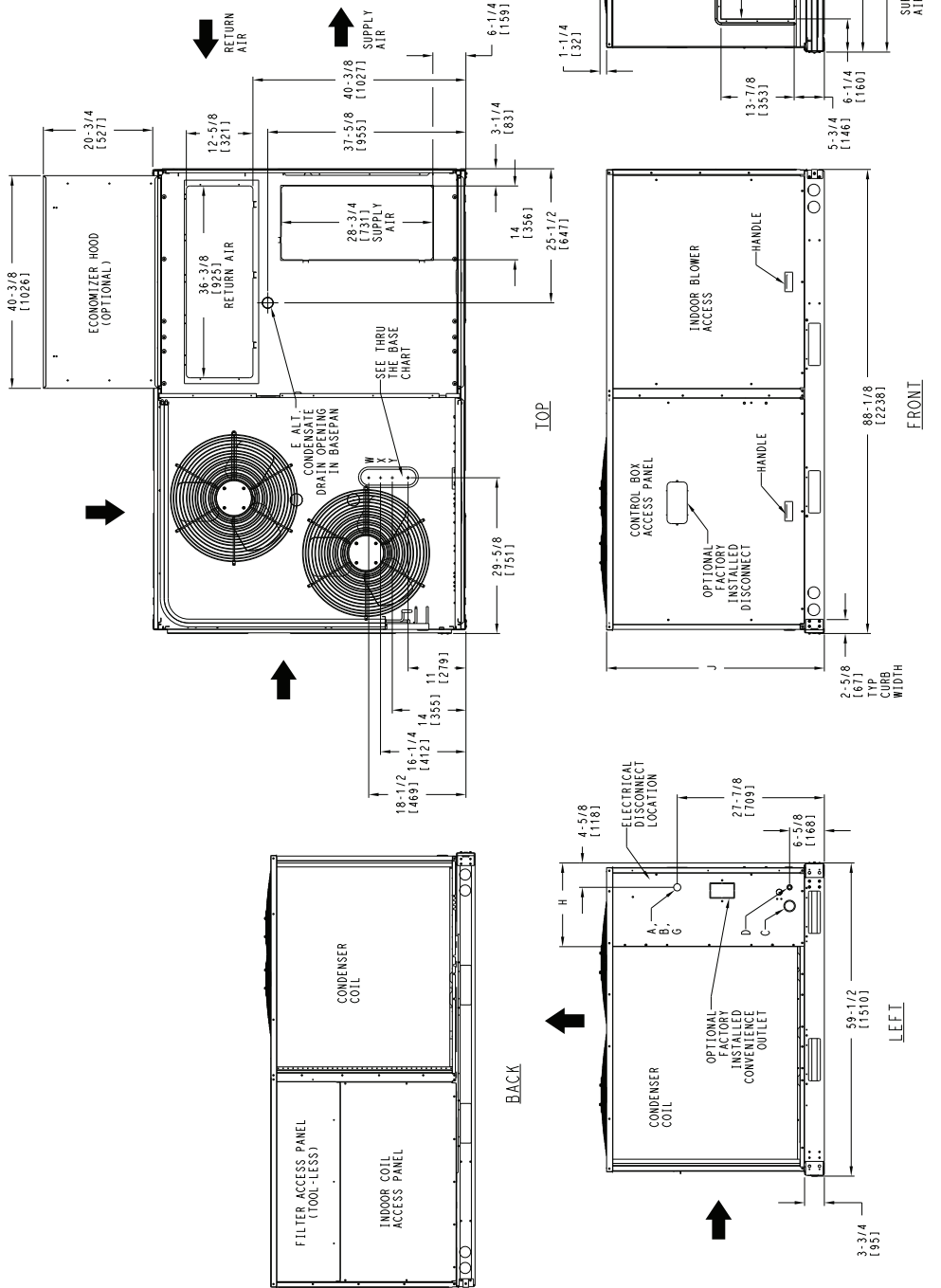


CONNECTION SIZES	
A	1 3/8" [35] DIA. FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA. POWER SUPPLY KNOCKOUT
C	1 3/4" [44] DIA. GAUGE ACCESS PLUG
D	7/8" [22] DIA. FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2" [51] DIA. POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART (FIELD INST)	
THESE HOLES REQUIRED FOR USE WITH ACCY KITS:	
CRBTMPR001A01: 07	
CRBTMPR002A01: 08	

	THREADED CONDUIT SIZE	WIRE USE SIZES (MAX.)	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	3/4" (001)	POWER	1 1/8" [28.6]
	1 1/4" (002)		1 3/4" [44.4]

THRU-THE-BASE CHART (FIOP)	
FOR "THRU-THE-BASEPAN" FACTORY OPTION.	
PARTS REQUIRED FOR ONLY 1/4" ELECTRICAL FITTINGS:	
(1) 1/2"	(1) 1 1/4" ELECTRICAL FITTINGS.



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	50HCO 07-08 SINGLE ZONE ELECTRICAL HEATPUMP	REV
U. S. ECCN: NSR	1 OF 2	09/28/16	05/07/10		A

Fig. 1 — 50HCO**07, 08 Dimensional Drawing

[illegible]

Fig. 2 — 50HCQ07, 08 Corner Weights**

NOTES:

- DIMENSIONS ARE IN INCHES, DIMENSIONS IN [] ARE IN MILLIMETERS.
- CENTER OF GRAVITY
- DIRECTION OF AIR FLOW

UNIT	H	J	K
50HCQD09	15-7/8 [403]	49-3/8 [1253]	36-3/8 [925]

The technical drawing illustrates the 50HCQD09 Single Zone Electric Heat Pump from three perspectives: Front, Back, and Left/Right side views. Key components labeled include the Condenser Coil, Indoor Coil Access Panel, Filter Access Panel (disposable filters), Economizer Hood (optional), Thru-the-base drain opening, and various air flow paths (Return Air, Supply Air). Dimensions are provided in inches and millimeters. A connection sizes chart and a thru-the-base chart are included at the bottom left.

CONNECTION SIZES

	A	B	C	D	E	G
1	3/8"	[35]	DIA. FIELD POWER SUPPLY HOLE			
2	1/2"	[64]	DIA. POWER SUPPLY KNOCKOUT			
3	3/4"	[44]	DIA. GAUGE ACCESS PLUG			
4	7/8"	[22]	DIA. FIELD CONTROL WIRING HOLE			
5	3/4"-14	NPT	CONDENSATE DRAIN			
6	2"	[51]	DIA. POWER SUPPLY KNOCK-OUT			

THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE
CRBMPWR002A01

	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4"	POWER	1 3/4" [44.4]

FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED.

SHEET	DATE	SUPERCEDS	REV
1 OF 2	05/07/10	NEW	-
50HC0009 SINGLE ZONE ELECTRIC HEAT PUMP			48TM503115

CERTIFIED DIMENSION PRINT

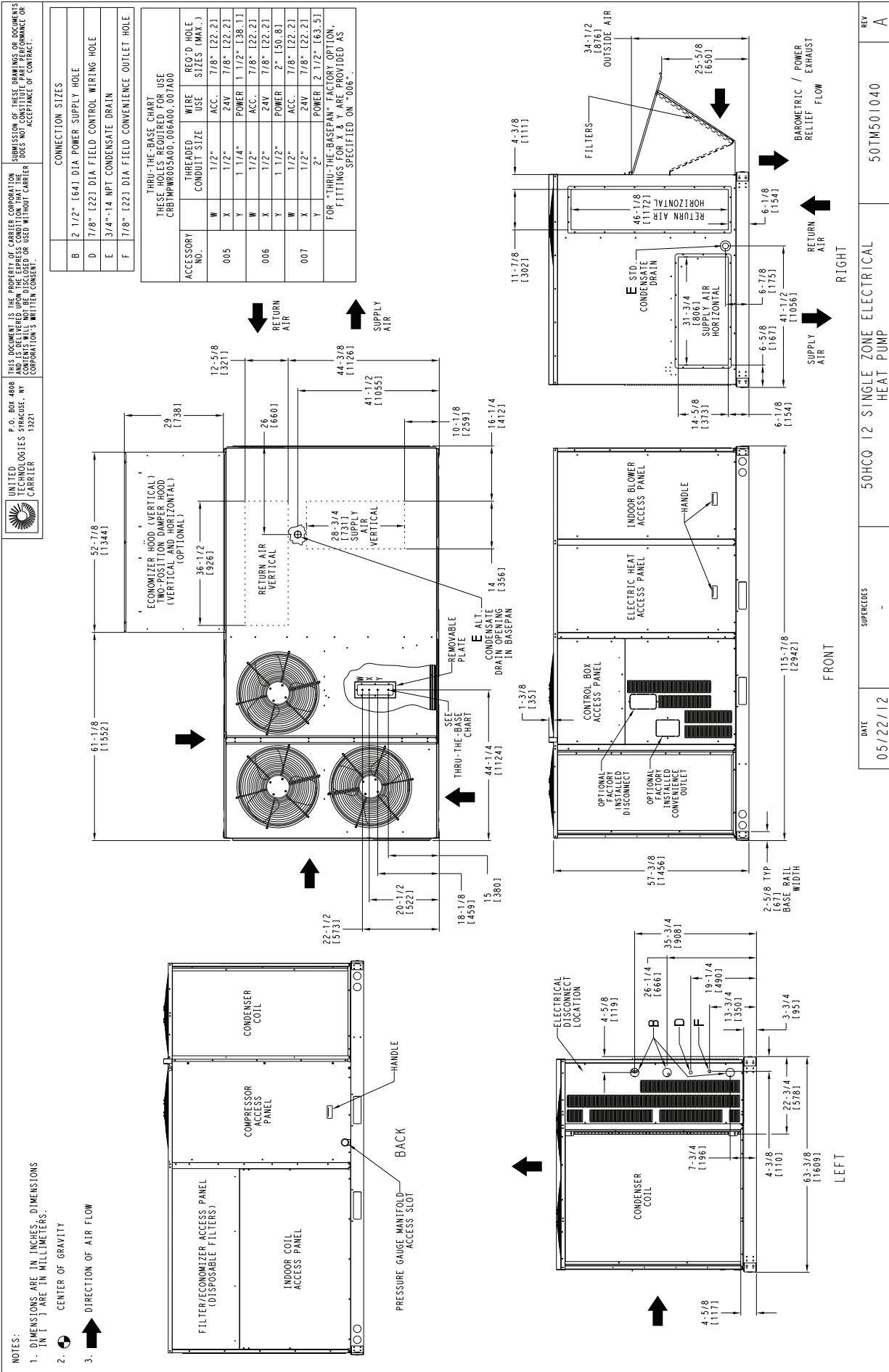
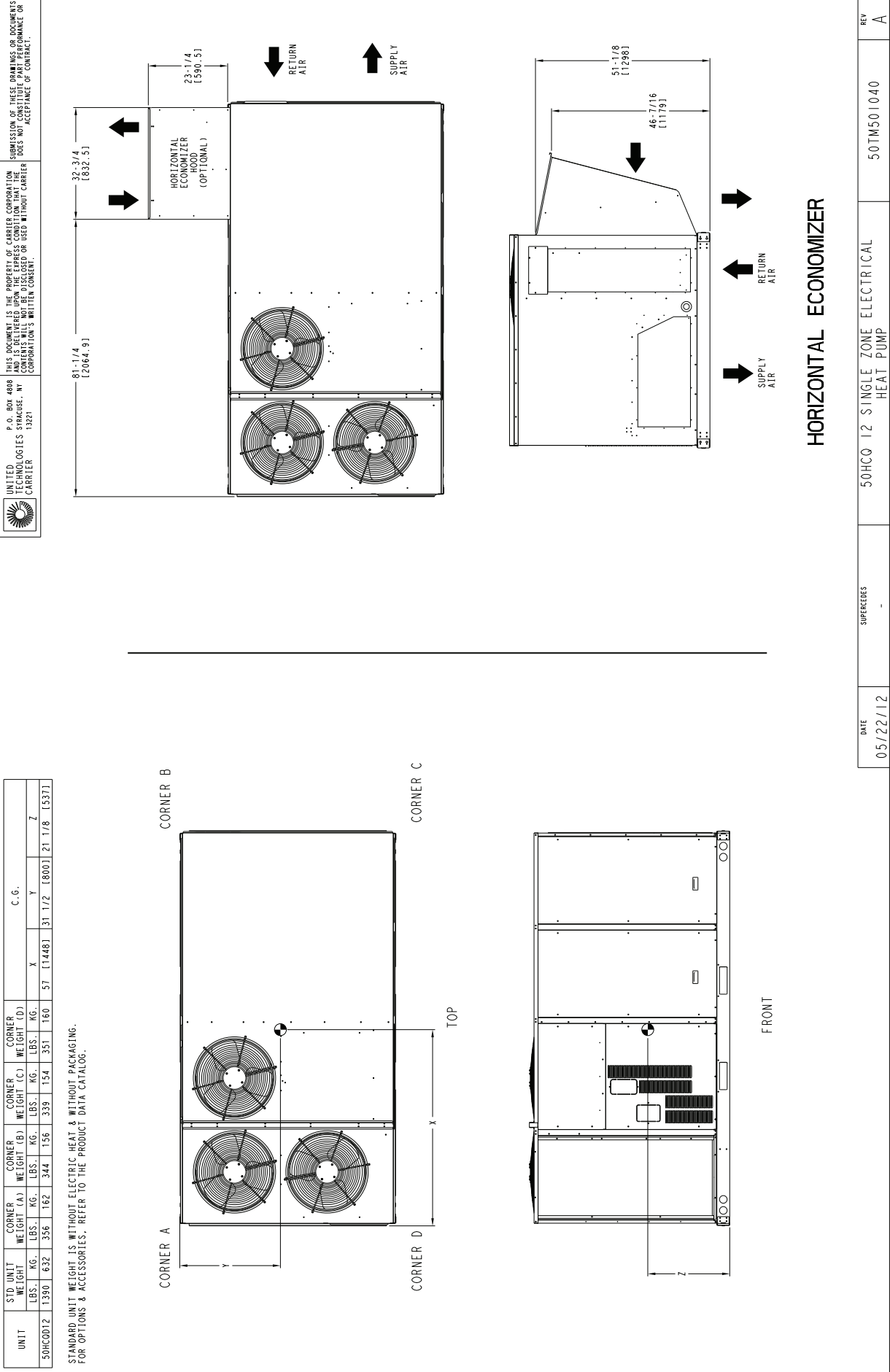
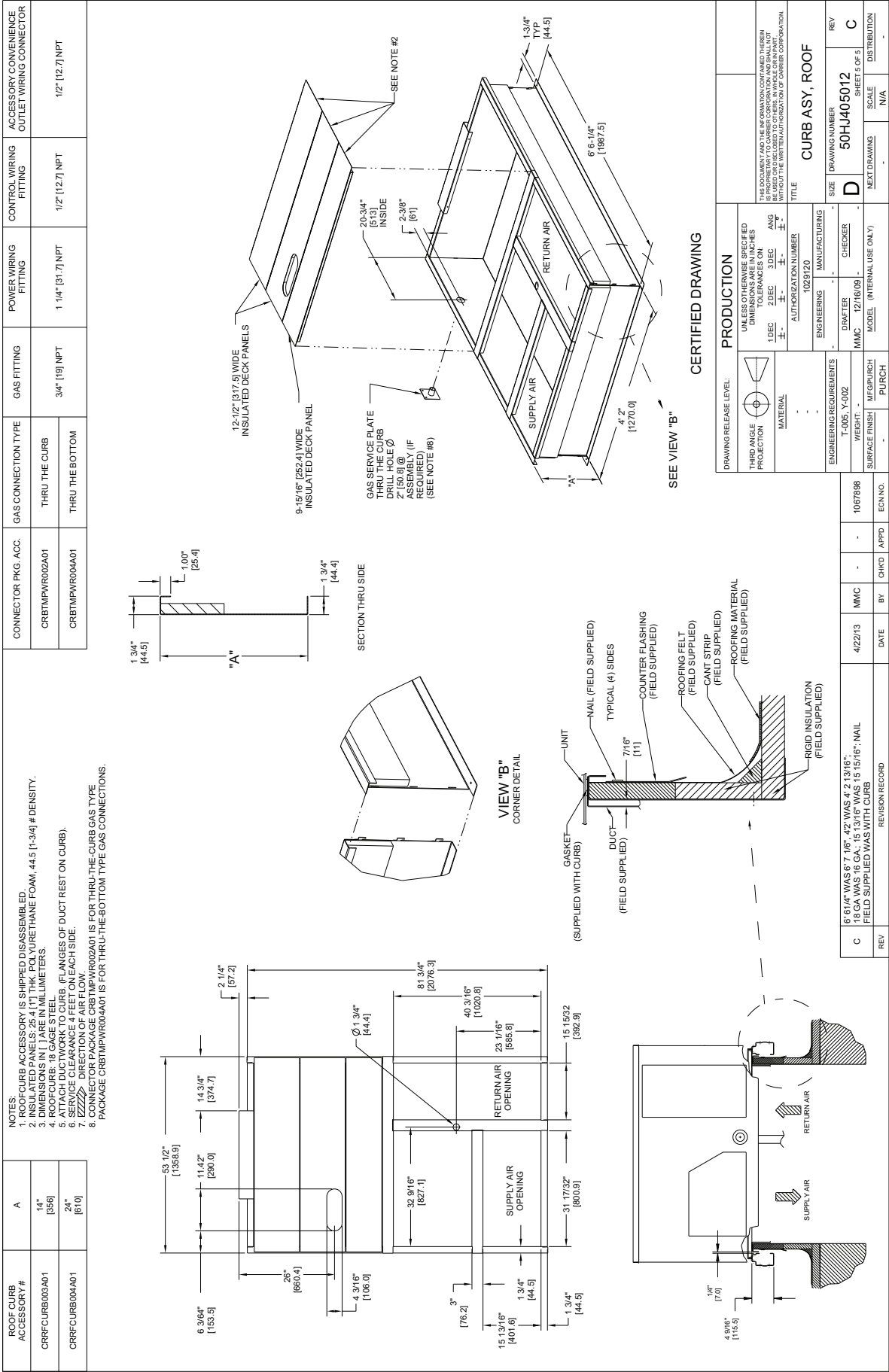


Fig. 5 — 50HCQ**12 Corner Weights

CERTIFIED DIMENSION PRINT



ROOF CURB DETAILS



[illegible]

15

