48HC17-28 WEATHERMASTER®
SINGLE PACKAGE ROOFTOP GAS HEAT/ELECTRIC COOLING UNITS AND OPTIONAL ENERGYX®

— PERFORMANCE DATA
— CERTIFIED DIMENSION PRINTS
— CERTIFIED ROOF CURB DETAILS
DESCRIPTION

48HC single package rooftop 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 EnergyX® is a factory-installed and integrated Energy Recover Ventilator (ERV) which, when installed, provides total integration for optimum performance. The units are factory tested in both heating and cooling modes. Units may be ordered with various factory-installed options. Field-installed accessories are also available. This unit exceeds the DOE-2018 (Department of Energy), ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers), and IECC-2015 (International Energy Conservation Code) minimum efficiency requirements when equipped with the Staged Air Volume (SAV™) system.

FEATURES

Standard Base Unit

- Puron (R-410A) HFC refrigerant
- IEERs up to 13.2 without SAV
- IEERs up to 13.8 with SAV
- EERs up to 12.0
- Rated in accordance with AHRI Standards 340/360
- Designed in accordance with Underwriters Laboratories Std 1995
- Listed by ETL and ETL-Canada
- Energy Star* qualified
- Two-stage 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 35°F (2°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
- Belt drive evaporator-fan motor and pulley combinations available on all models to meet any application and belt break protection system
- 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
- Central terminal board facilitating simple safety circuit troubleshooting and simplified control box arrangement

Standard Base Unit with EnergyX

- Combined Efficiency Factors (CEF) up to 17.0+
- ComfortLink Controls that provide:
  - Scrolling marquee display
  - Time schedule and Service run test
  - Service diagnostics, alarms, and alarm history
  - Sensor or thermostat sensor capabilities
  - Help reduce mechanical cooling load at design temperatures up to 4 tons per 1000 cfm of outside air
  - Helps reduce mechanical heating load up to 2.5 ton per 100 cfm of outside air
  - Outside air and exhaust air CFM monitoring and display capabilities

  * Energy Star is a registered trademark of the U.S. Environmental Protection Agency
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 _____ CFM External Static Pressure ______ in. wg
Indoor Fan Motor Size __________________________ HP
Exhaust Fan Motor Size __________________________ HP

Curb Weight __________________________ lb

HEATING (GAS)

Heating Capacity:
Stage 1 __________________________ Btuh
Stage 2 __________________________ Btuh
Heating Capacity Total __________________ Btuh
Stage 1 __________________________ kW
Stage 2 __________________________ kW
Heating Capacity Total __________________ Btuh

ELECTRICAL DATA

Power Supply to Unit __________________________
Volts _________________________________________ Volts
Phase _________________________________________ Hz
Maximum Circuit Amps _________________________
Maximum Overcurrent Protection ___________________

SUBMITTAL DATA

Job Name _______________________________________
Architect _______________________________________
Engineer _______________________________________
Contractor ______________________________________
Unit Designation ________________________________
Low Leak Air Dampers —

- Models with W7212 controller provide standard non-diagnostic control (EconoMi$er® IV system).
- Models with W7220 controller meet California Title 24-2016 Section 120.2.i for Fault Detection and Diagnostic (FDD) requirements (EconoMi$er X system).
- Models with RTU Open controller meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with Comfortlink controller meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with PremierLink controller. PremierLink controller does not meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirement (EconoMi$er 2 system).

Economizer with ENTHALPY Sensing and Barometric Relief

Low Leak Air Dampers —

- Models with W7212 controller provide standard non-diagnostic control (EconoMi$er IV system).
- Models with W7220 controller meet California Title 24-2016 Section 120.2.i for Fault Detection and Diagnostic (FDD) requirements (EconoMi$er X system).
- Models with RTU Open controller meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with Comfortlink controller meet California Title 24-2016 Section 120.2.i Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with PremierLink controller. PremierLink controller does not meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirement (EconoMi$er 2 system).

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 6.4.3.3.4, and meet 2016 Fault Detection and Diagnostic requirements. For outside air, return, and relief air damper leakage requirements economists 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 (EconoMi$er 2 system).
- Models with Comfortlink controller meet California Energy Commission Title 24-2016 perspective section 140.4 (damper leakage, etc.), and mandatory section 120.2.i for Fault Detection and Diagnostic controls. Economizers meet ASHRAE 90.1-2016 damper leakage requirements as stated in section 6.5.1.1.4 and Table 6.4.3.3.4, and meet 2016 Fault Detection and Diagnostic requirements. For outside air, return, and relief air damper leakage requirements economists meet IECC 2012 section C402.4.5.2 and, IECC 2015 sections C403.2.4.3 and C403.3.3.5 for outside air, return air, and relief air damper leakage requirements and IECC 2015 section C403.2.4.7 for Fault Detection and Diagnostic requirements. NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately. Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi$er 2 system).
FACTORY-INSTALLED OPTIONS (CONT)

☐ Economizer with ENTHALPY Sensing and Barometric Relief (cont)
   ULTRA LOW LEAK Air Dampers —
   ○ Models with ComfortLink 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 Diagnostic 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 (EconoMi$er® 2 system).
   ○ Models with RTU Open meet California Energy Commission Title 24-2016 perspective section 140.4 (damper leakage, etc.) and mandatory section 120.2.i for Fault Detection and Diagnostic requirements. Economizers meet ASHRAE 90.1-2016 damper leakage requirements as stated in section 6.5.1.1.4 and Table 6.4.3.4.3, and meet 2016 Fault Detection and Diagnostic requirements in section 6.4.3.12. Economizers meet IECC 2012 section C402.4.5.2 and, IECC 2015 sections C403.2.4.3 and C403.3.3.5 for outside air, return air, and relief air damper leakage requirements and IECC 2015 section C403.2.4.7 for Fault Detection and Diagnostic requirements.
   NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately.
   Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi$er® 2 system).
   ○ Models with PremierLink™ 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 Diagnostic 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 (EconoMi$er® 2 system).

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 (EconoMi$er® 2 system).
**FIELD-INSTALLED ACCESSORIES**

**Economizer with DRY BULB Sensing and Barometric Relief**

Standard Leak Air Dampers —

- Models with W7212 controller provide standard non-diagnostic control (EconoMi$er IV system).
- Models with W7220 controller meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirements (EconoMi$er X system).
- Models with RTU Open controller meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with ComfortLink controller meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with PremierLink controller. PremierLink controller does not meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirement (EconoMi$er 2 system).

**Economizer with ENTHALPY Sensing and Barometric Relief**

Standard Leak Air Dampers —

- Models with W7212 controller provide standard non-diagnostic control (EconoMi$er IV system).
- Models with W7220 controller meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirements (EconoMi$er X system).
- Models with RTU Open controller meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with ComfortLink controller meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirements (EconoMi$er 2 system).
- Models with PremierLink controller. PremierLink controller does not meet California Title 24-2016 Section 120.2.1 Fault Detection and Diagnostic (FDD) requirement (EconoMi$er 2 system).

**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 Diagnostic requirements in section 6.4.3.12. Outside air, return air, and relief air (volume) dampers are AMCA rated — plus 5 year limited parts warranty (EconoMi$er X system).
- Models with ComfortLink 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 Diagnostic requirements in section 6.4.3.12. 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 Diagnostic 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.
- Models with PremierLink™ 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 Diagnostic 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.

**Economizer with DRY BULB Sensing and Barometric Relief**

ULTRA LOW LEAK Air Dampers —

- 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 Diagnostic 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.
- Models with ComfortLink 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 Diagnostic 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.
FIELD-INSTALLED ACCESSORIES (CONT)

☐ **Economizer with DRY BULB Sensing and Barometric Relief (Cont)**

- Models with I/O Flex 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. Models with I/O Flex 6126 controller 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 (EconoMi$er 2 system).

☐ **Economizer with ENTHALPY 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 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. For outside air, return air, 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.

- Models with ComfortLink 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 (EconoMi$er 2 system).

- Models with PremierLink™ 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 (EconoMi$er 2 system).
FIELD-INSTALLED ACCESSORIES (CONT)

Standard Base Unit
- Display kit for Variable Frequency Drive (VFD), Staged Air Volume (SAV™) system. Allows additional set to 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 — centrifugal fan design
- Two-position motorized outdoor air damper†
- Manual outside air damper 25%*, †
- Roof curb — 14 inch (356 mm) tall
- Roof curb — 24 inch (610 mm) tall
- Horizontal roof curb adapts to standard base unit and directs airflow horizontally
- Thru-the-bottom connections, electrical only†
- Thru-the-bottom connections, electrical and gas†
- 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)
- Winter start kit, down to 25°F (–4°C)
- Low ambient head pressure controller, down to 0°F (–18°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
☐ Carrier energy demand system

Economizer Sensors
- Single dry bulb temperature sensor*
- Differential dry bulb temperature sensor*
- Single enthalpy sensor
- Differential enthalpy sensor
- CO2 — wall mounted
- CO2 — 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 Commercial Start-Up and Optional Extended Warranty Price pages for further information.

* Not available on units with EnergyX® installed.
† Not available with SAV 2-speed fan motor.
UNIT DIMENSION PRINT

Fig. 1 — 48HC*17 Unit Dimensions
Fig. 1 — 48HC*17 Unit Dimensions (cont)
A standard unit weight is with low gas heat and without packaging. For other options and accessories, refer to the product data catalog.

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Fig. 1 — 48HC*17 Unit Dimensions (cont)
Fig. 2 — 48HC*20,24 Unit Dimensions
Fig. 2 — 48HC*20,24 Unit Dimensions (cont)
UNIT DIMENSION PRINT

Fig. 2 — 48HC*20,24 Unit Dimensions (cont)

* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.
Fig. 3 — 48HC*28 Unit Dimensions
UNIT DIMENSION PRINT

Fig. 3 — 48HC*28 Unit Dimensions (cont)
Fig. 4 — 48HC'17 with EnergyX® Unit Dimensions
Fig. 5 — 48HC*20 with EnergyX® Unit Dimensions
Fig. 5 — 48HC*20 with EnergyX® Unit Dimensions (cont)
Fig. 6 — 48HC*24 with EnergyX® Unit Dimensions (cont)
Fig. 7 — 48HC*28 with EnergyX® Unit Dimension
Fig. 8 — 48HC*17 Roof Curb Details
Fig. 10 — 48HC*28 Roof Curb Details