Submittal Data

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

The 48LC are ultra high efficiency, single-packaged electric cooling, gas heating units that are pre-wired and pre-charged with Puron® (R-410A) HFC refrigerant. Units utilize 2 stage cooling capacity scroll compressor technology with optional Variable Frequency Drive (VFD) indoor fan motor control or Direct Drive (multi speed/torque) ECM motor. Models with Carrier ComfortLink controls allows added unit diagnostics and operation set up capabilities as well as controlling logic for single zone variable air volume (SZ-VAV) applications.

STANDARD FEATURES

Base Unit
- Same unit footprint as Carrier models produced in the late 1980’s. Ideal for replacement, tight spaces
- Puron (R-410A) HFC refrigerant
- SEER’s: Up to 17.5 with Direct Drive ECM .
  Up to 16.4 with Belt Drive/VFD indoor fan motor. VFD includes display standard on electro mechanical and RTU Open models. On ComfortLink models, VFD control operation is accessed through the ComfortLink controls.
- ASHRAE 90.1 energy compliant & Energy Star qualified
- Meets or exceeds CEE criteria
- Rated in accordance with AHRI Standards 210/240
- Designed in accordance with Underwriters’ Laboratories Std 1995
- Listed by UL and CUL-Canada
- 2 stage cooling capacity scroll compressor technology
- Belt drive evaporator-fan motor and pulley system with Variable Frequency Drive (VFD) controller or Direct Drive (multi speed/torque) ECM (Electronically Commutated Motor) motor
- High efficient Electronically Commutated Motor (ECM) - outdoor fan motor
- Non-corrosive composite sloping design; side or center drain condensate pan. Meets ASHRAE Standard 62
- Ambient cooling operating from 0°F (-18°C) to 125°F (52°C) with ComfortLink and from 10°F (-12°C) to 125°F (52°C) with electrical mechanical controls.
- Field convertible from vertical to horizontal airflow for slab mounting — No special kits required
- 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
- Permanently lubricated evaporator-fan motor
- Totally enclosed condenser motors with permanently lubricated bearings
- Low-pressure and high-pressure switch protection

Cabinet
- Cleanable foil-faced insulation throughout cabinet
- Innovative, easy starting, no-strip screw feature on unit access panels
- Access panels with easy grip handles and tool-less filter access door
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection

Refrigerant System
- Precision sized TXV refrigerant metering system
- High capacity liquid line filter drier
- 2 stage cooling capacity scroll compressors with crankcase heater
- High performance internally enhanced 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
- Exclusive 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
- Low NOx models that meet California Air Quality Management NOx requirement of 40 nangrams/joule or less. Low NOx models include stainless steel heat exchangers
- Gas efficiencies up to 82%
- Inducted draft gas heat combustion
- Redundant gas valves with up to two stages of heating
- Flame roll-out safety protector
- Solid-state electronic direct spark ignition system
- Alumagrad™ coated Turbo-tubular™ heat exchangers
STANDARD FEATURES (cont.)

Standard Limited Parts Warranty
- 15-year gas heat exchanger parts - Stainless Steel
- 10-year gas heat exchanger parts - Aluminized
- 5-year compressor parts
- 3-year ComfortLink control
- 1-year parts

COMFORTLINK CONTROLS - FEATURES

Features with optional ComfortLink controls:
- Communications (via stand-alone thermostat or sensor)
- Scrolling Marquee display
- Time schedule
- Reverse rotation protection for compressors
- Space temperature sensor capacity
- Service diagnostics, alarms, and alarm history
- Service run test capability
- Unit run time and compressor cycles history
- CO₂ sensor capability
- 3V™ (VVT®) Zoning Linkage

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
Total Heating Capacity:
INPUT
Stage 1 ________________ Btuh
Stage 2 ________________ Btuh
OUTPUT
Stage 1 ________________ kW
Stage 2 ________________ kW
Thermal Efficiency State __________ %

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)

- RTU Open multi-protocol controller communicates to LON, MODBUS, BACNET and Johnson N2 protocols. Available with electrical mechanical controls only
- ComfortLink control system with standard cooling operation down to 0°F (-18°C)
- Electrical Mechanical controls standard cooling operation down to 10°F (-12°C)
- Patented HumidiMiZer® adaptive dehumidification system. Available with direct drive or belt drive indoor fan motors. (Not available on models with ComfortLink controls.)

- Economizer with DRY BULB sensing and barometric relief.
  Standard Air Leak Dampers —
  - 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 ComfortLink controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements. EconoMi$er 2.

- Economizer with ENTHALPY sensing and barometric relief.
  Standard Air Leak Dampers —
  - 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 ComfortLink controller meets California Title 24 (section 120.2) Fault Detection and Diagnostic (FDD) requirements. EconoMi$er 2.

- Economizer with DRY BULB sensing and barometric relief.
  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.
  - Models with ComfortLink 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.

- Through the base connectors for gas and electric conduit/piping
- Stainless steel gas heat exchanger (includes tubes, vestibule plate and collector box)
- Direct Drive (multi speed/torque) ECM indoor fan motor
  OR
- Belt Drive Indoor Fan motor with Variable Frequency Drive (VFD) controller
- Non-fused disconnect
- HACR Breaker
- Powered 115-volt convenience outlet
- Non-powered 115-volt convenience outlet (except 575v)
- 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

- **Economizer with DRY BULB sensing and barometric relief.**

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  - Models with ComfortLink 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. EconoMi$er 2.

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- Power exhaust - prop fan design
- Roofcurb - 14 inch (356mm) tall
- Roofcurb - 24 inch (610mm) tall
- Thru-the-bottom connections-electrical only
- Thru-the-bottom connections-electrical and gas
- 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)
- Time Guard II compressor anti-cycle protection
- 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
NOTES:
1. ROOF CURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 2-5/8" POLYURETHANE FOAM, 44.5 [1-3/4"] # DENSITY.
3. DIMENSIONS ARE IN INCHES.
4. ROOF CURB: 18 GAUGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 9 FEET ON EACH SIDE.
7. DIRECTION OF AIR FLOW.
8. CONNECTOR PACKAGE CRBTMWR001A01 IS FOR THRU-THE-CURB GAS TYPE.
9. CONNECTOR PACKAGE CRBTMWR003A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.
10. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
11. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4"] # DENSITY.
12. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
13. ROOFCURB: 18 GAUGE STEEL.
14. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
15. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
16. DIRECTION OF AIR FLOW.
17. CONNECTOR PACKAGE CRBTMWR001A01 IS FOR THRU-THE-CURB GAS TYPE.
18. CONNECTOR PACKAGE CRBTMWR003A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.
19. ROOF CURB ACCESSORY IS SHIPPED DISASSEMBLED.
20. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4"] # DENSITY.
21. DIMENSIONS ARE IN INCHES.
22. ROOF CURB: 18 GAUGE STEEL.
23. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
24. SERVICE CLEARANCE 9 FEET ON EACH SIDE.
25. DIRECTION OF AIR FLOW.
26. CONNECTOR PACKAGE CRBTMWR001A01 IS FOR THRU-THE-CURB GAS TYPE.
27. CONNECTOR PACKAGE CRBTMWR003A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.